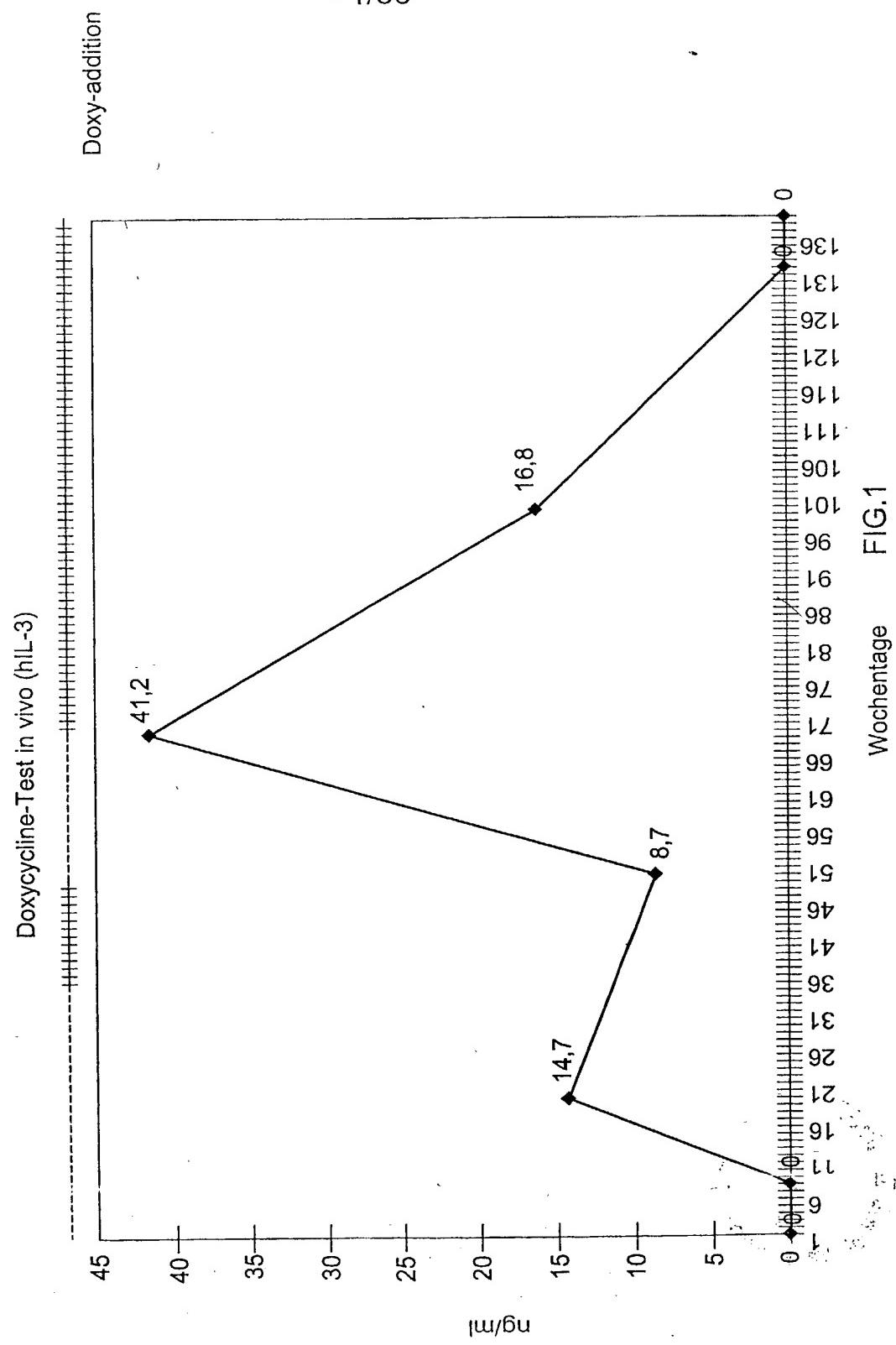
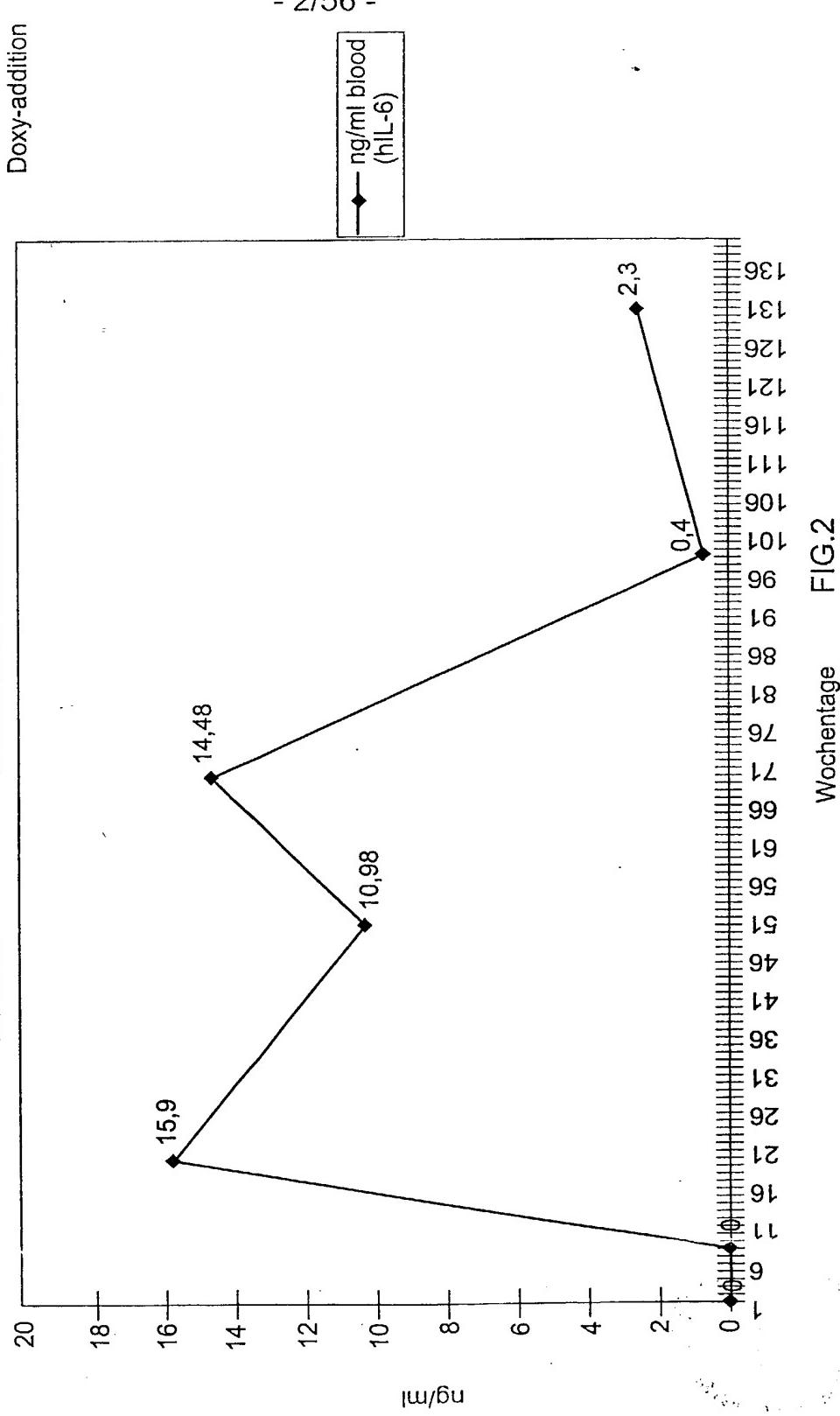


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Doxycycline-Test in vivo (hIL-6)



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Scid-mice [OG,SM,OD,SC(-)]:hLL-6

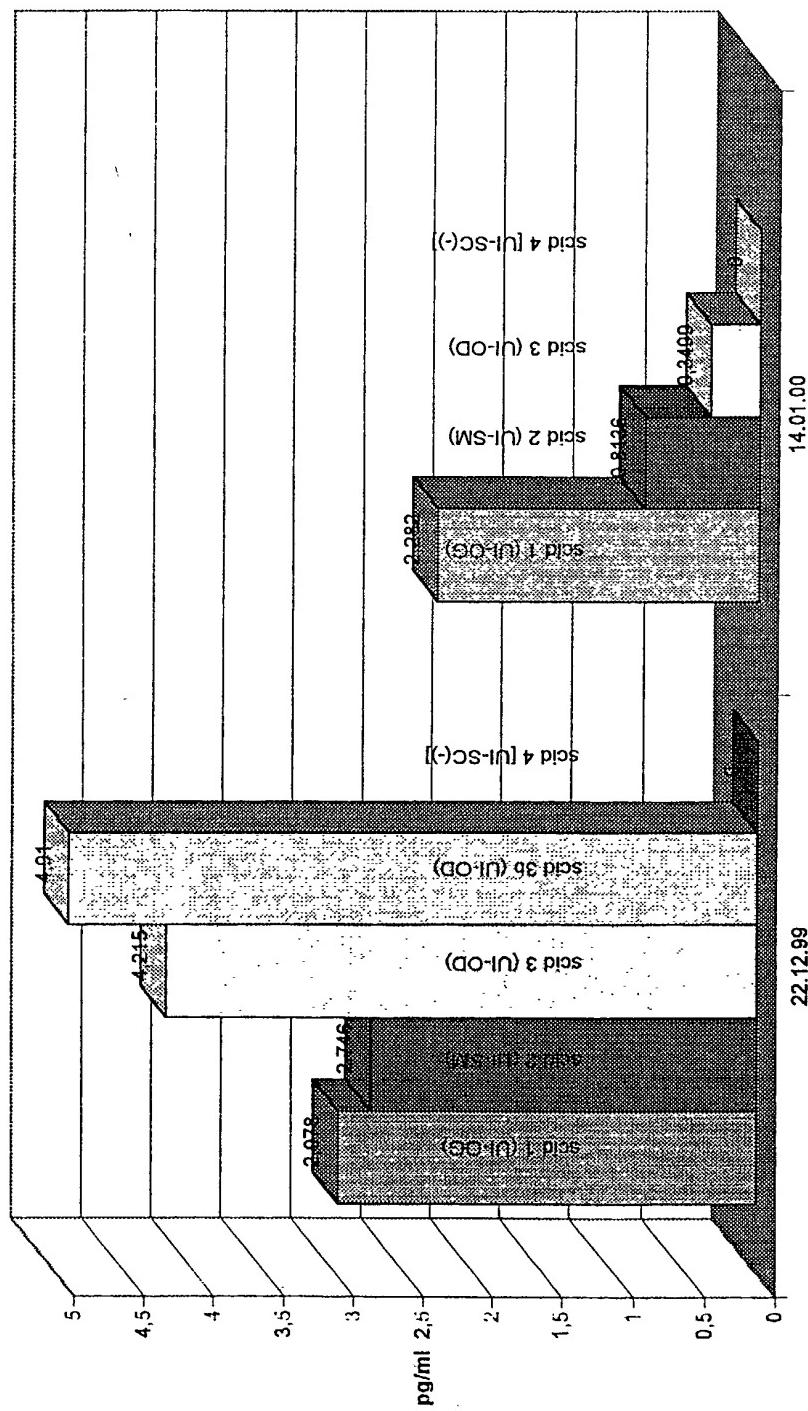
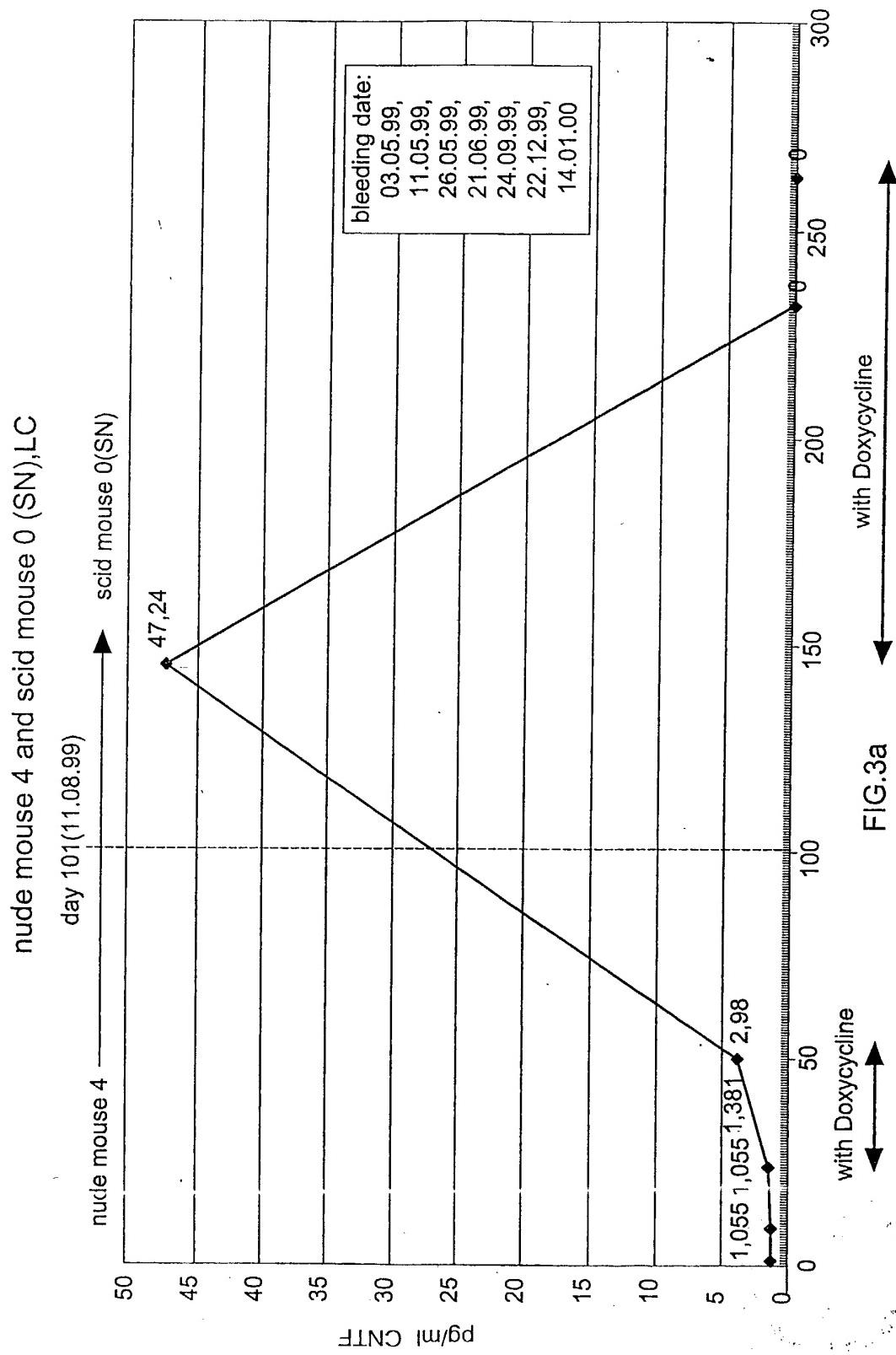
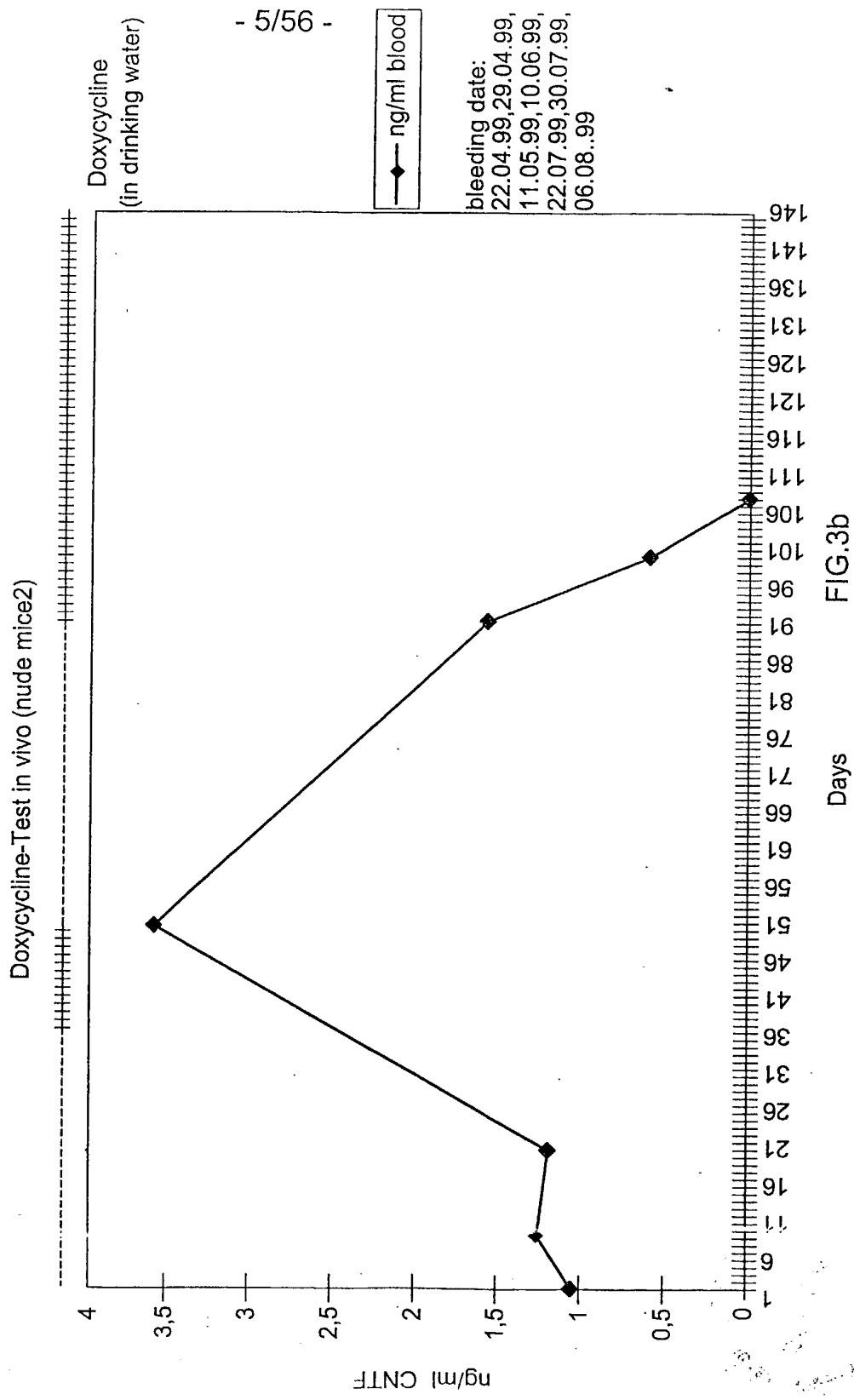


FIG.3

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Cloning of growth factor genes

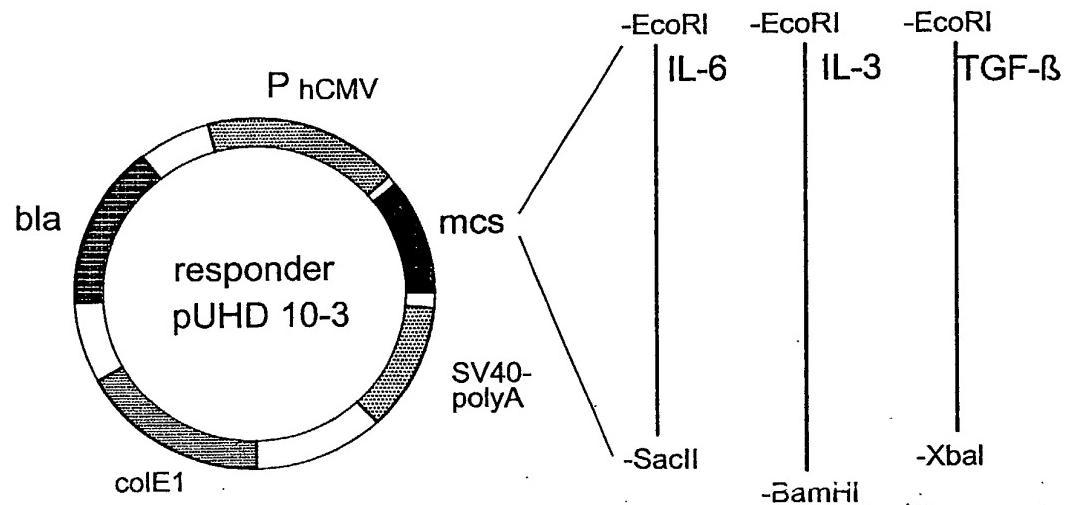
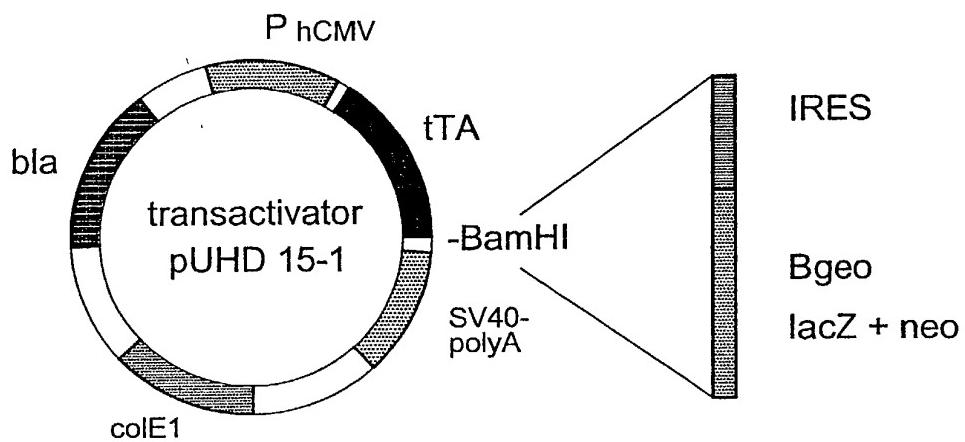
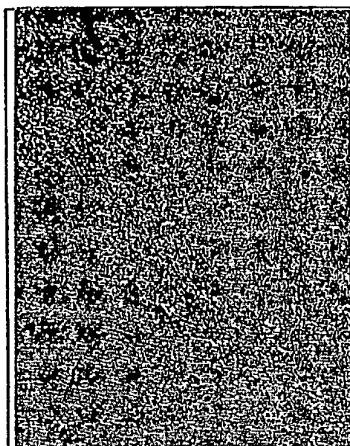


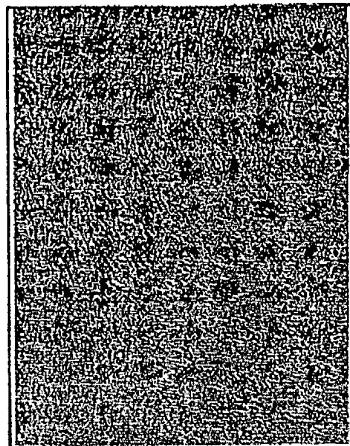
FIG.4

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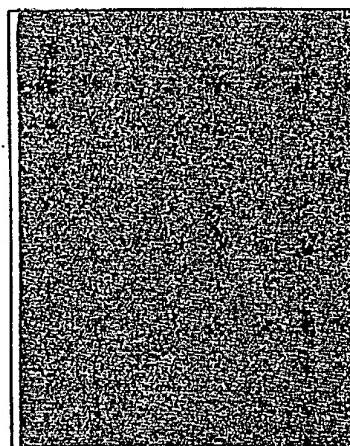
A
H-3
+MK



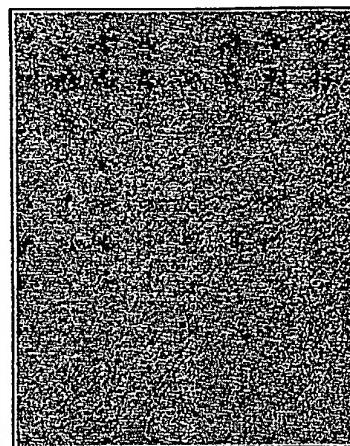
D
H3hIL6
+MK



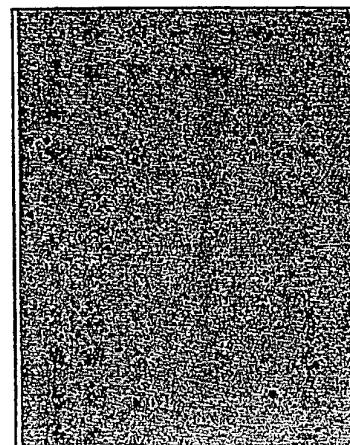
B
H3



E
H3hl
L6



C
MK



F
MK

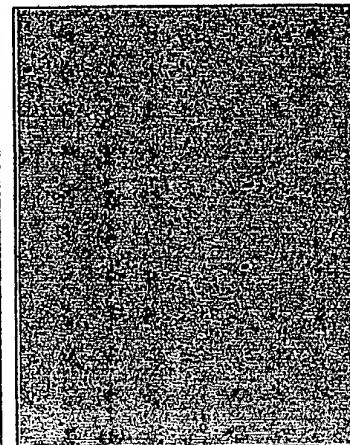
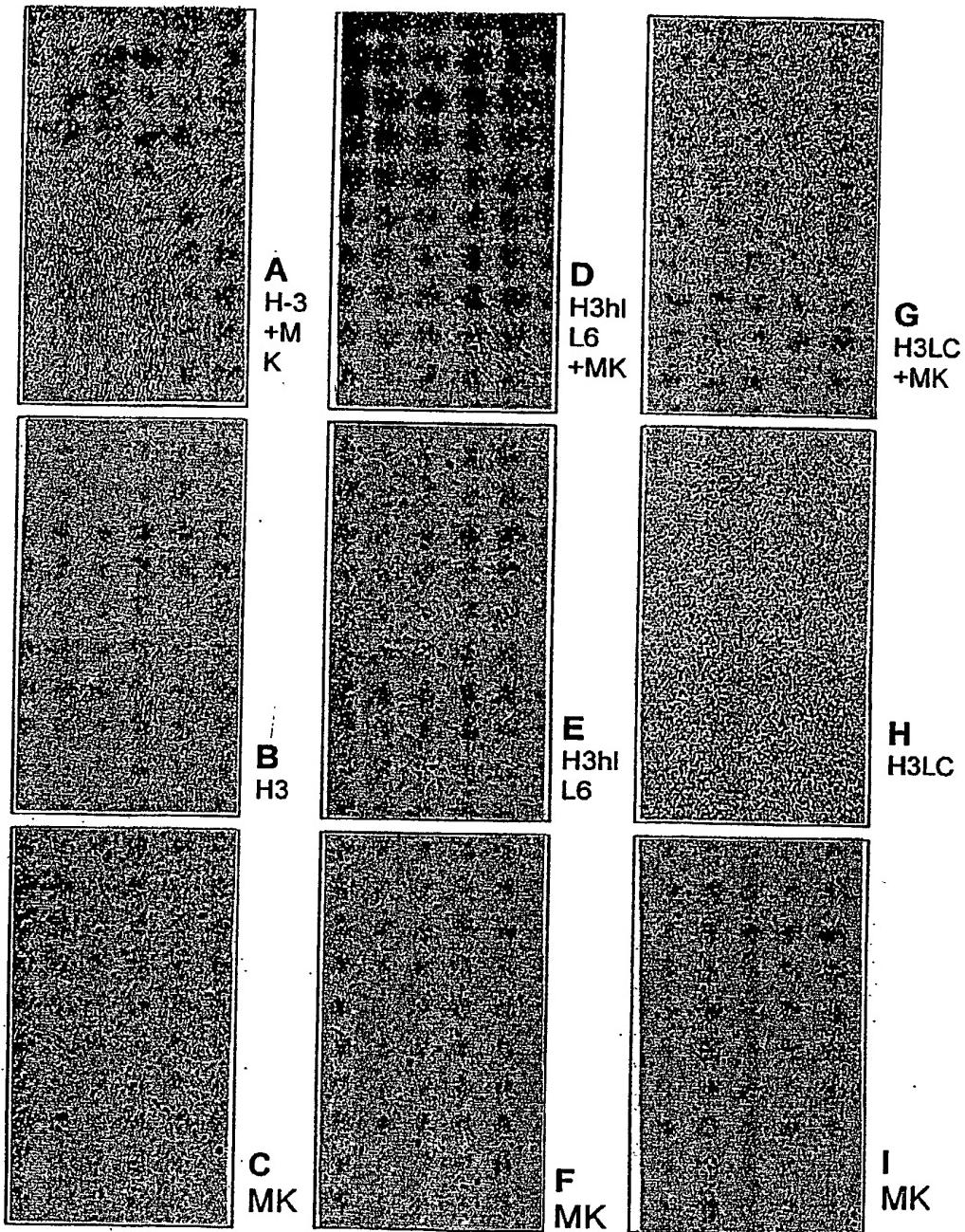


FIG.5

5wk

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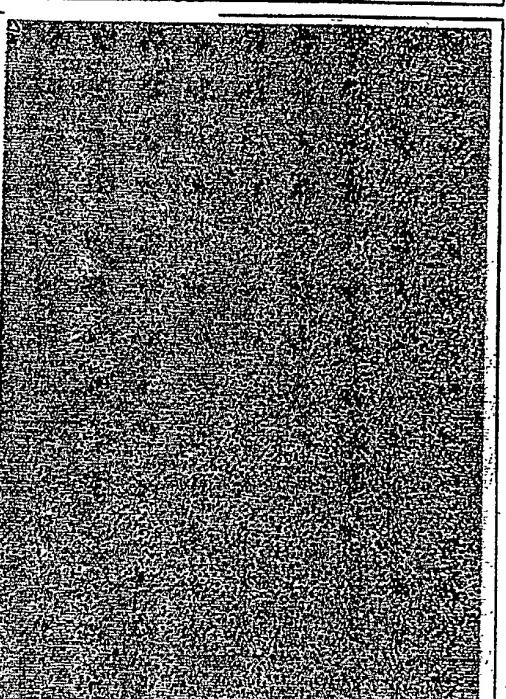
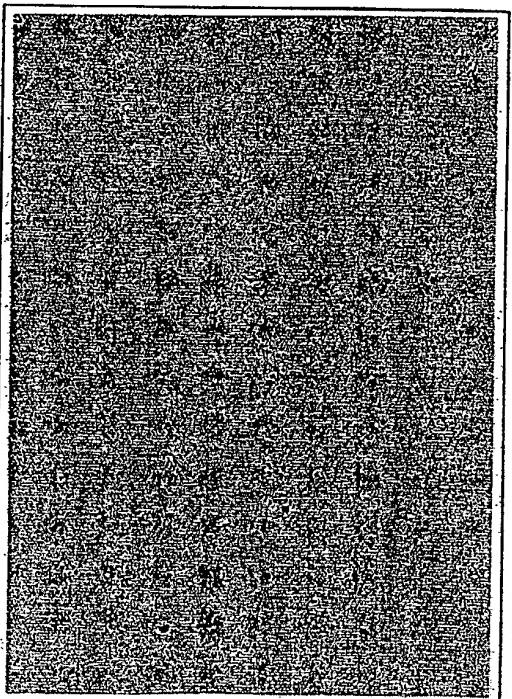
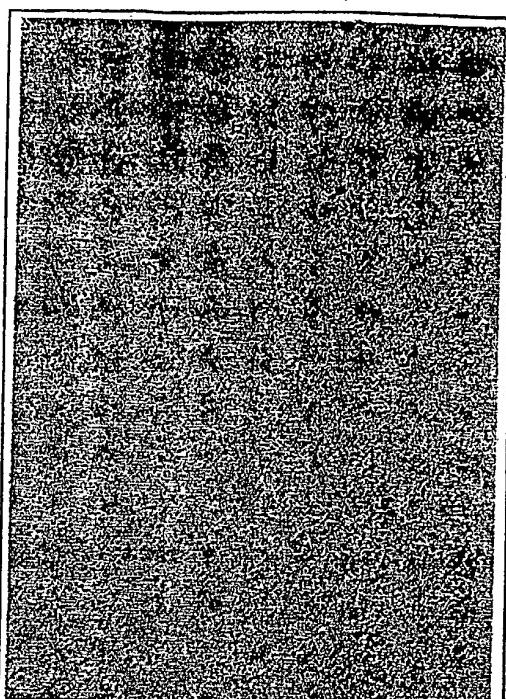
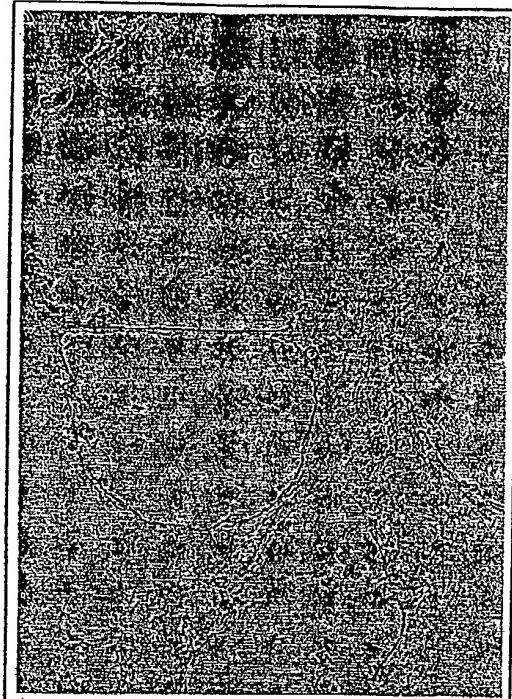
2wk

FIG.6.

A.MK(MK+H3-GFP)

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B.H3-GFP(MK+H3-GFP)



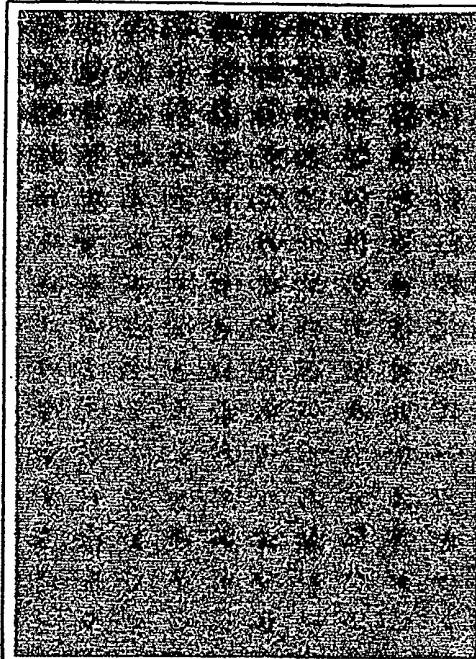
C.MK alone

D.H3-GFP alone

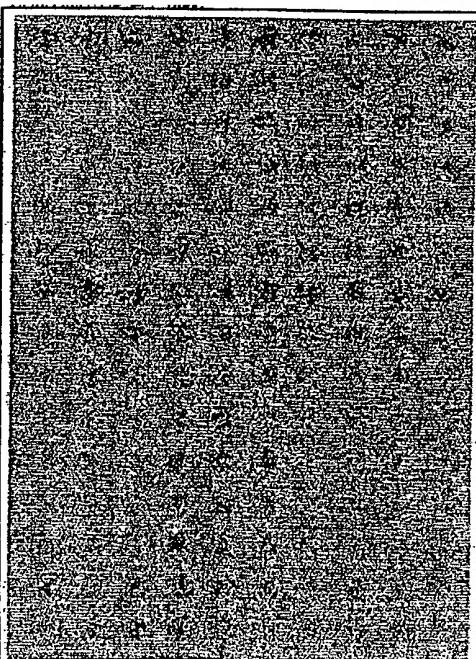
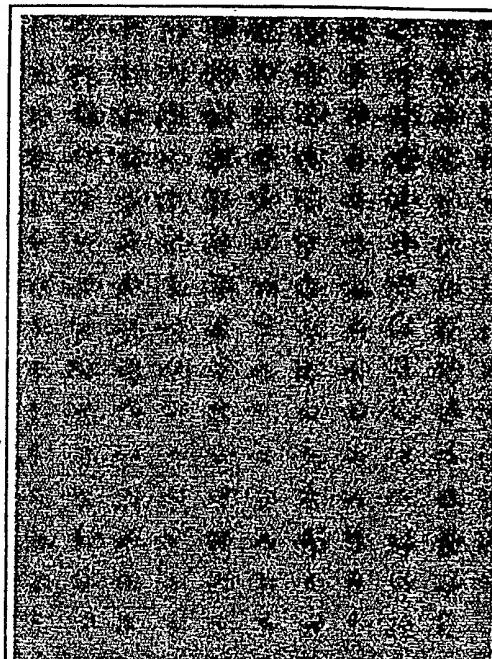
FIG.7

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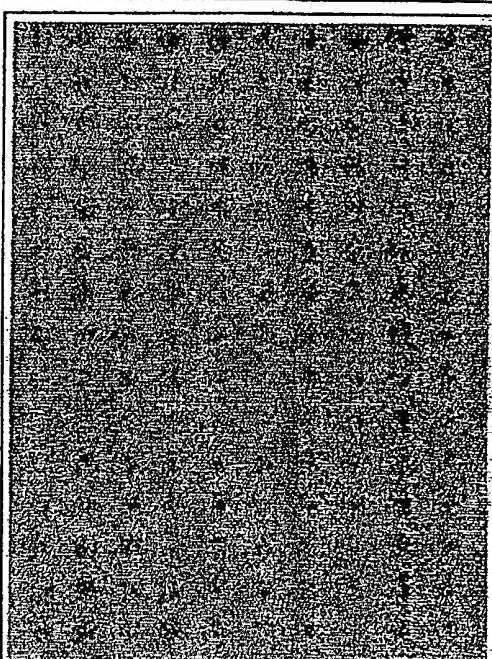
A.MK (MK+H3-GFP-hIL6)



B.H3-GFP-hIL6(MK+H3-GFP-hIL6)



C.MK alone

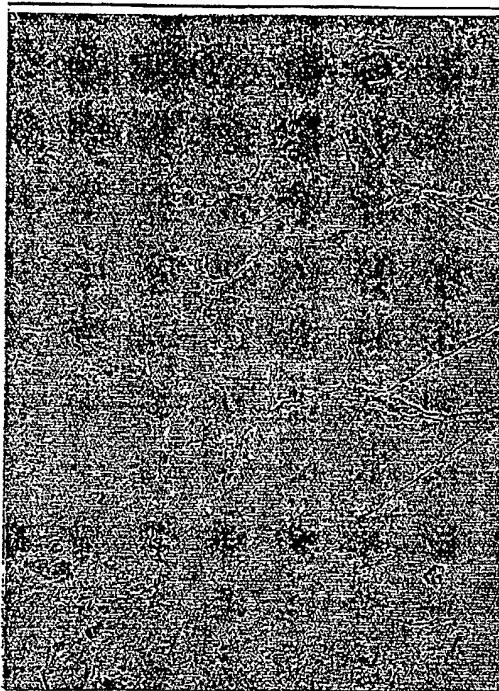


D.H3-GFP-hIL6 alone

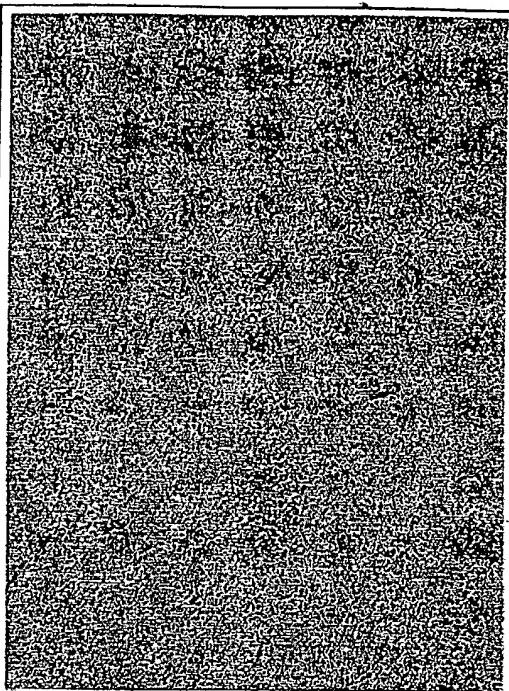
FIG.8

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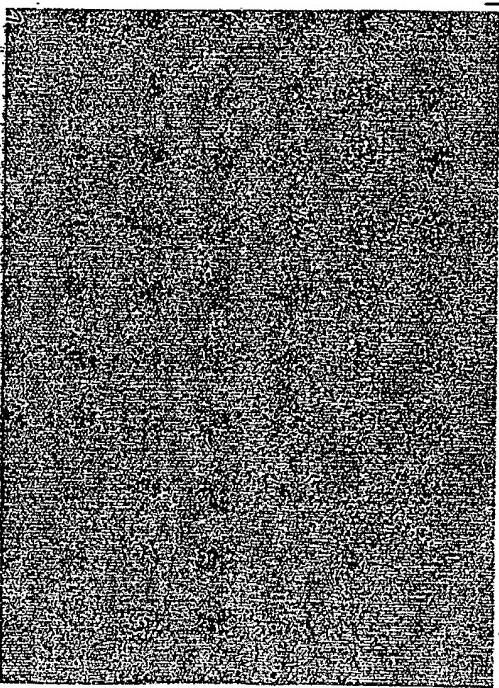
A.MK (MK+H3-LC)



B.H3-LC (MK+H3-LC)



C.MK alone



D.H3-LC alone

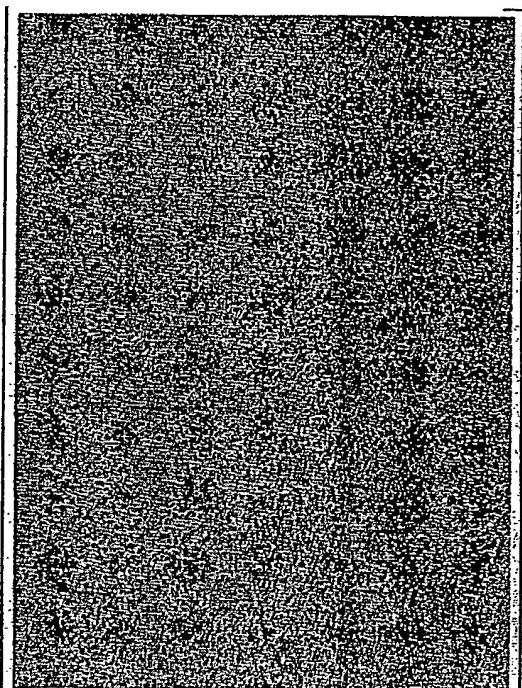
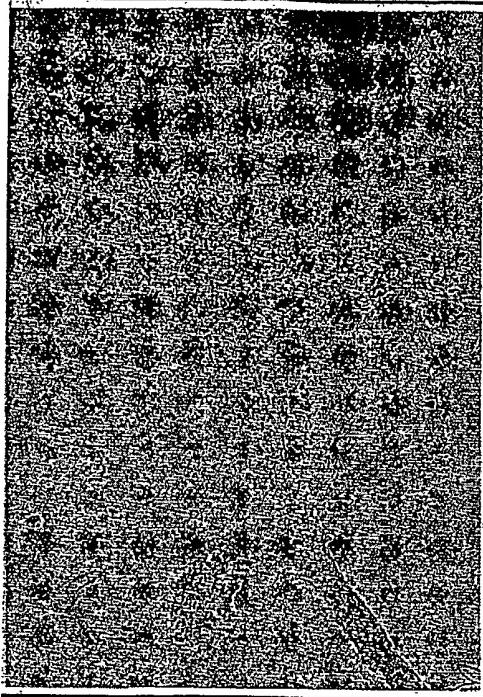


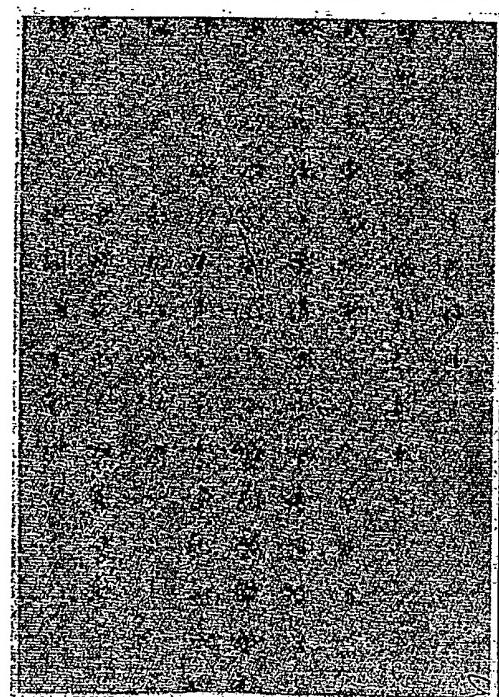
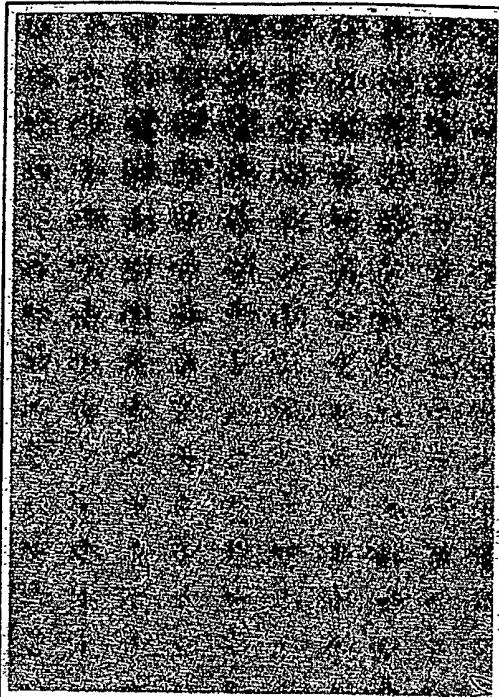
FIG.9

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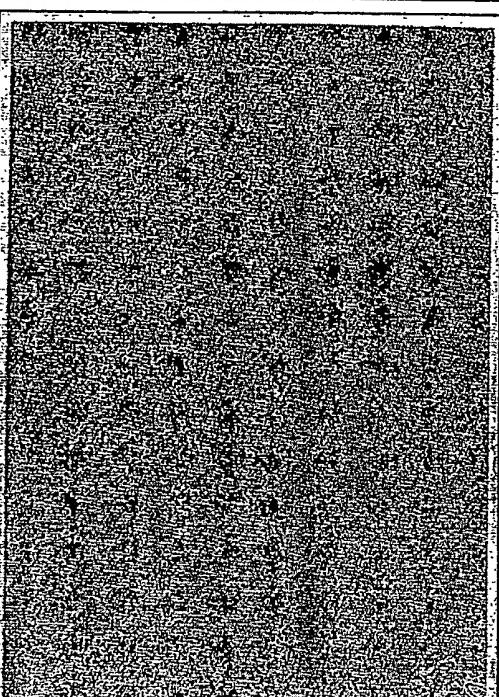
A.Sk (Sk+H3-GFP)



B.H3-GFP (Sk+H3-GFP)



C.Sk alone



D.H3-GFP alone

FIG.10

A. SK (Sk+H3-GFP-hIL6) - 13/56 - B. H3-GFP-hIL6 (Sk+H3-GFP-hIL6)

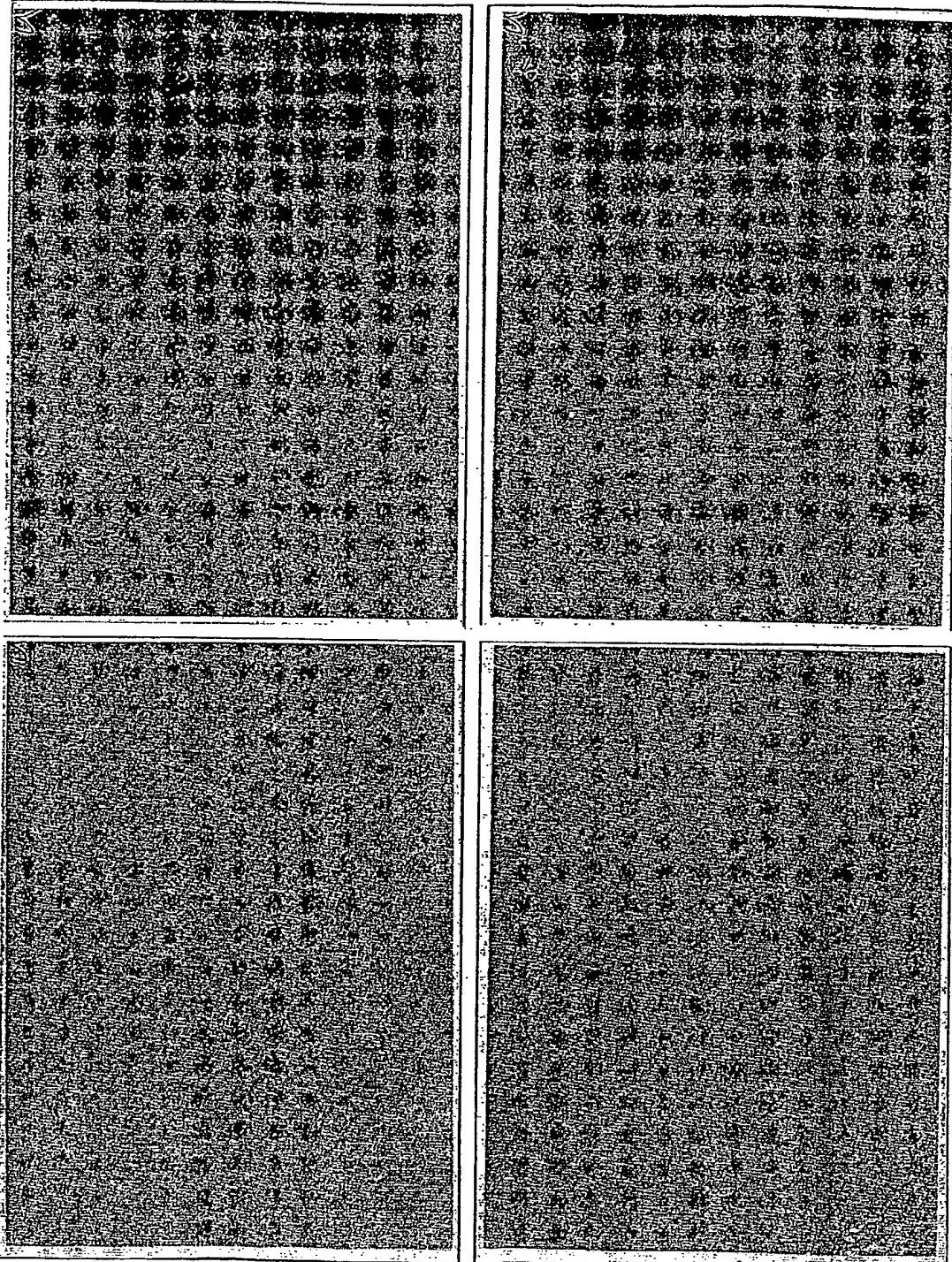
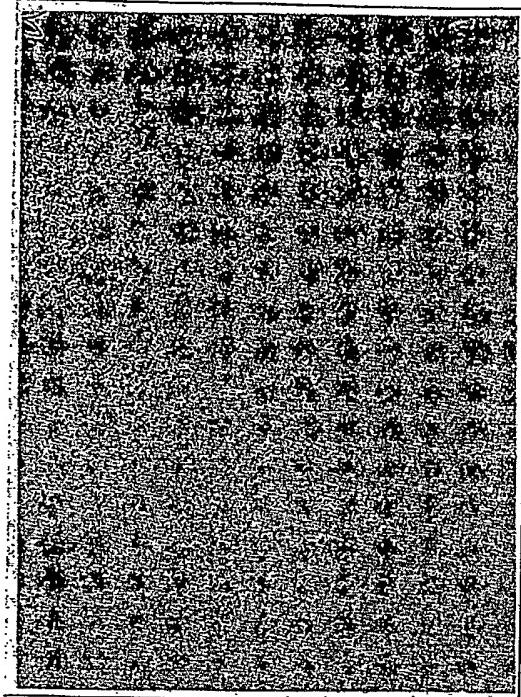


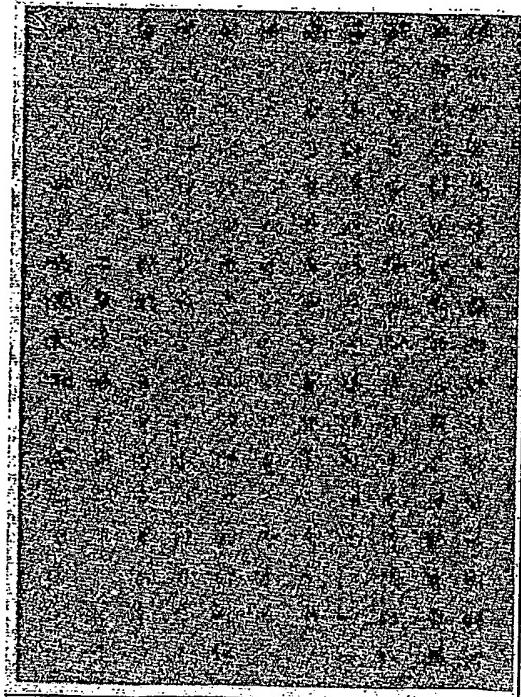
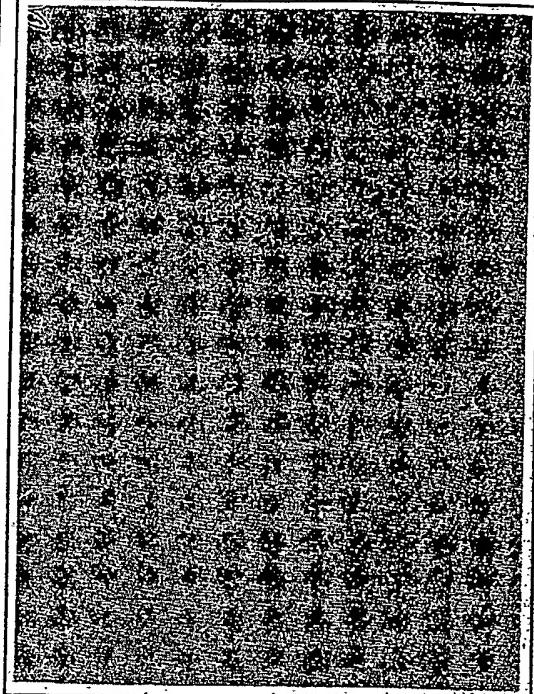
FIG.11

A. Sk (Sk+H3-LC)

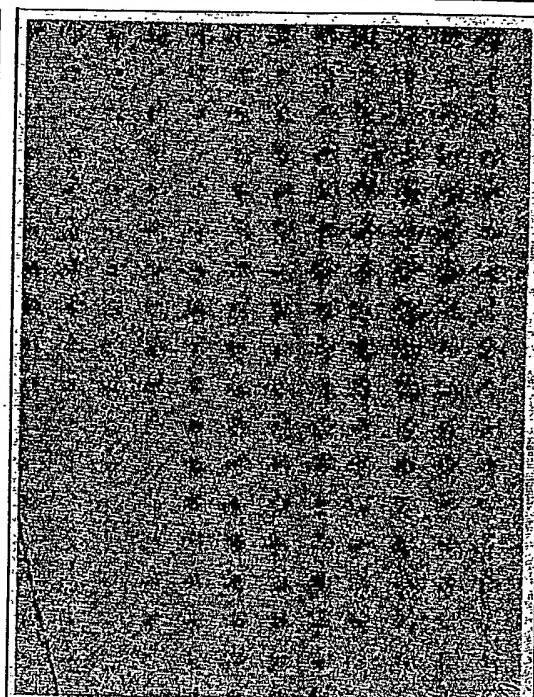


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B. H3-LC (Sk+H3-LC)



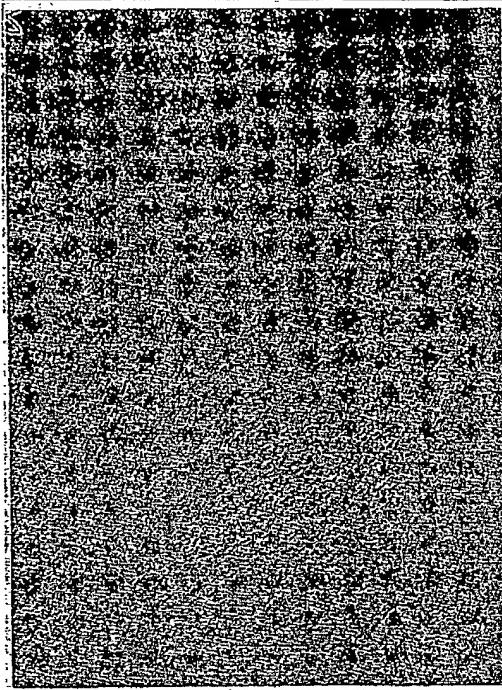
C. Sk alone



D. H3-LC alone

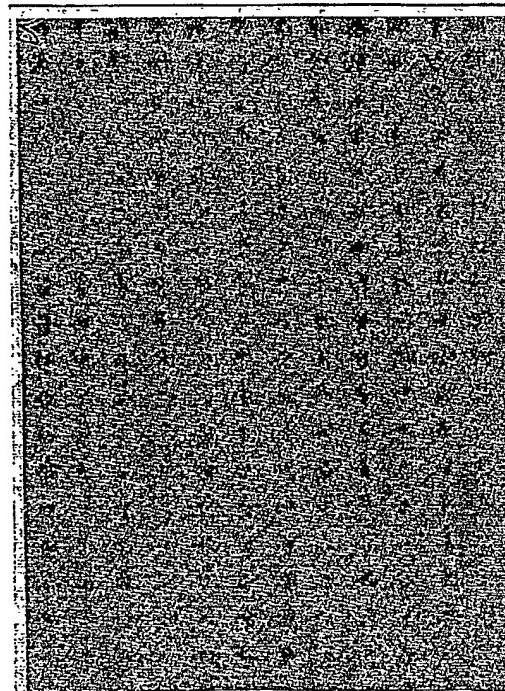
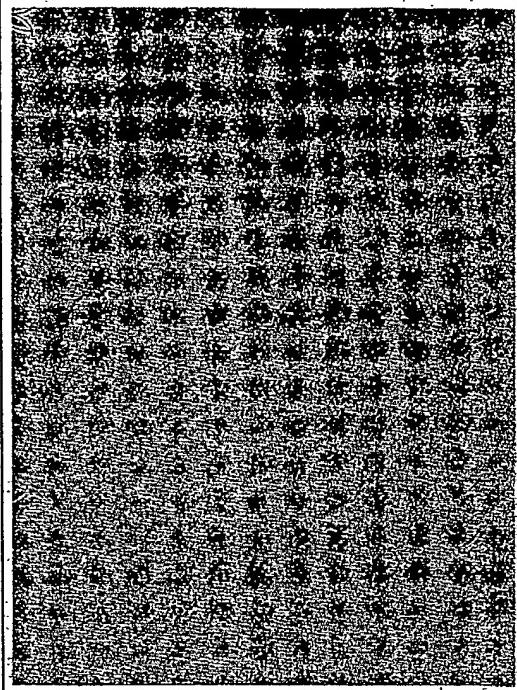
FIG.12

A. Sk (Sk+MK)

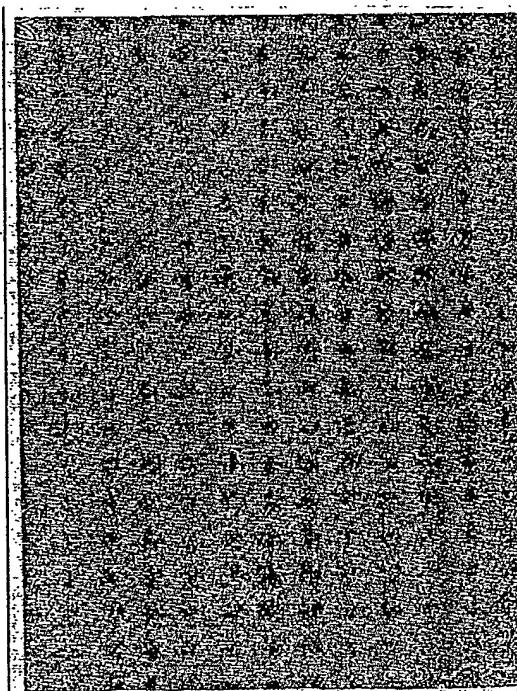


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B. MK (Sk+MK)



C. Sk alone



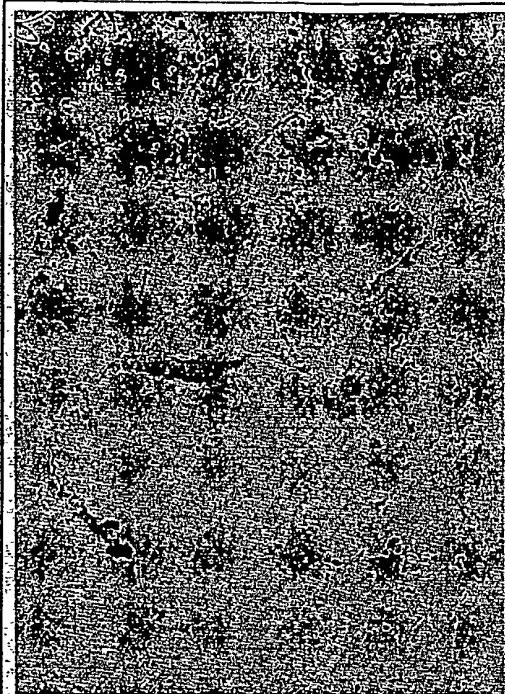
D. MK alone

FIG.13

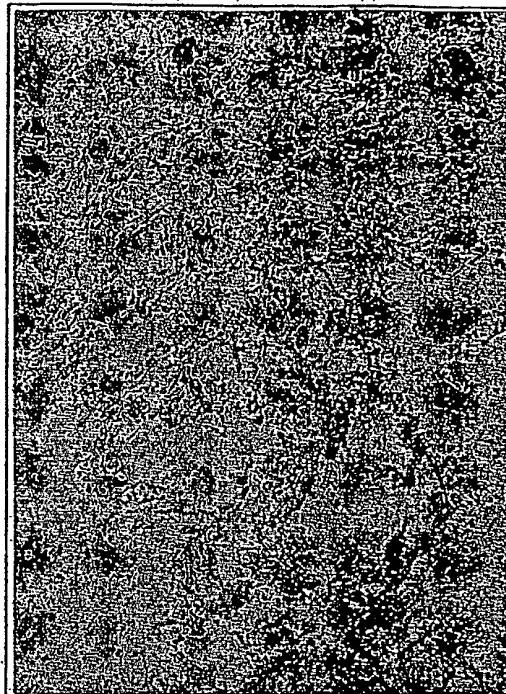
16/56 16/57 16/58 16/59 16/60 16/61 16/62 16/63 16/64 16/65 16/66 16/67

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A. Lg (Lg+L14)



B. L14 (Lg+L14)



C. Lg alone

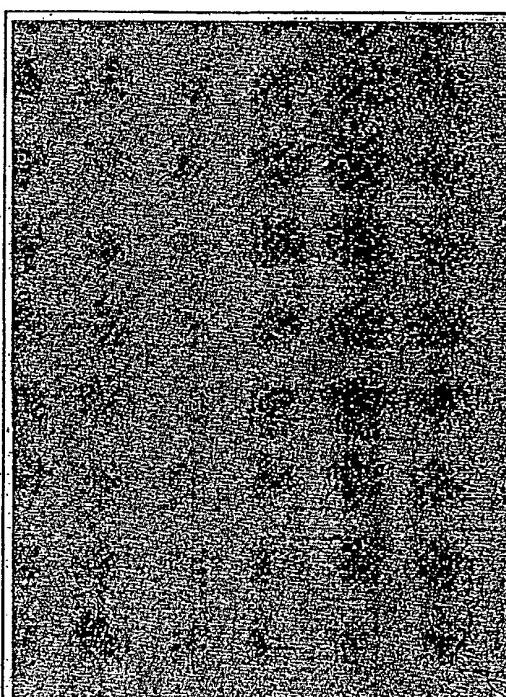
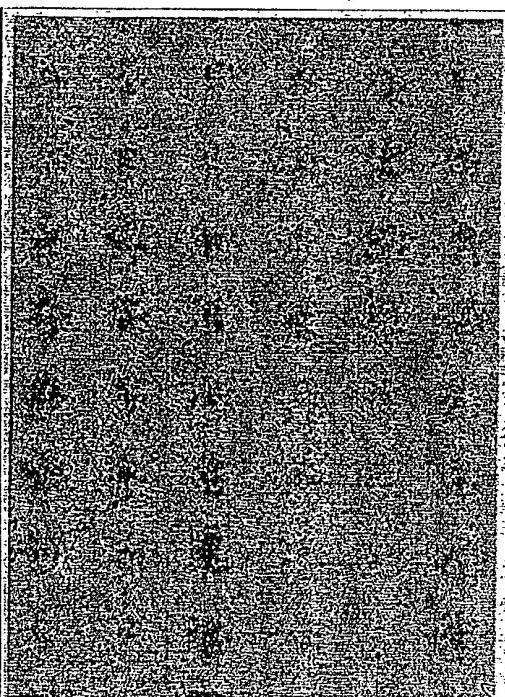


FIG.14

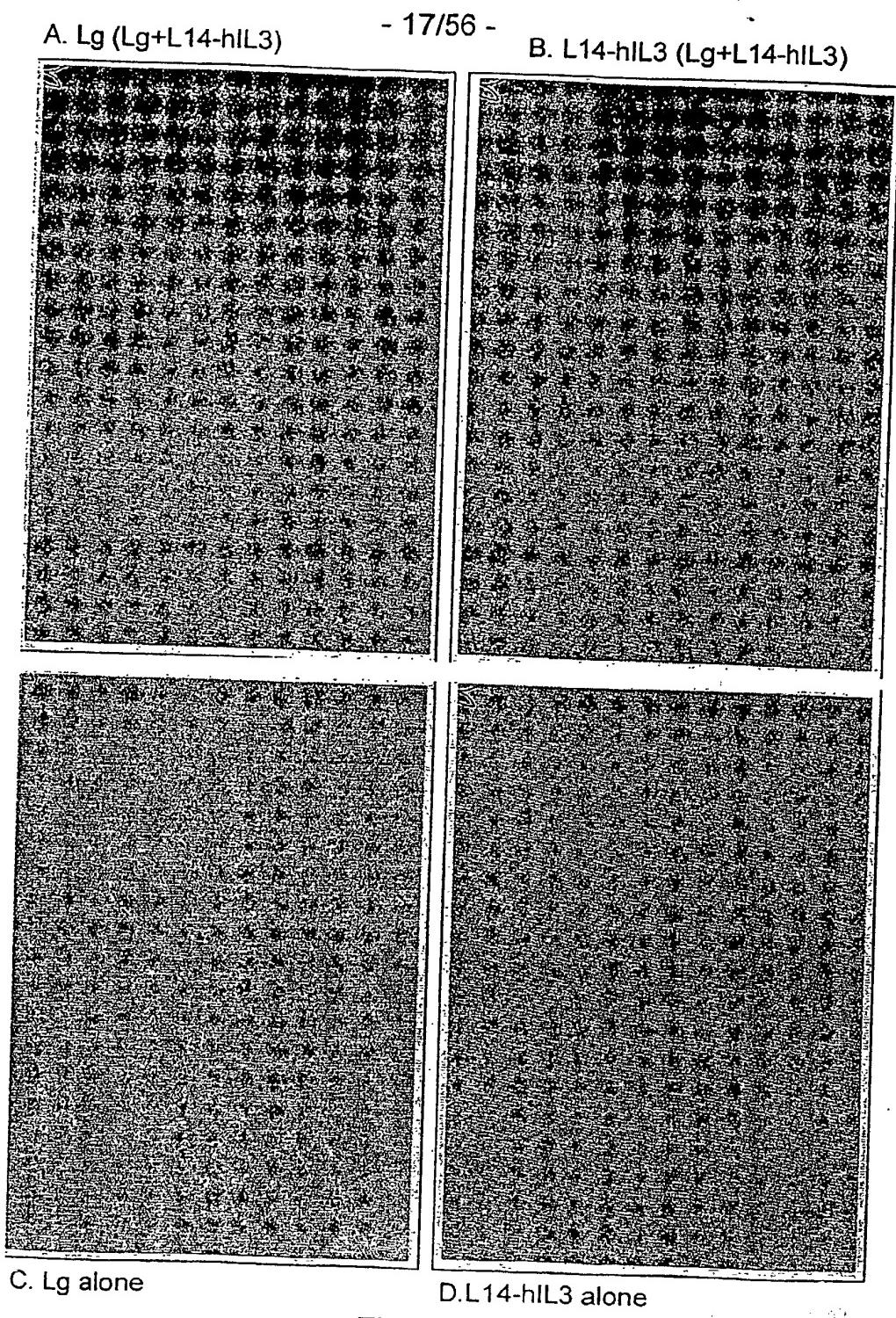


FIG.15

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FIG.16

633 633 633 633 633 633 633 633 633 633 633 633 633

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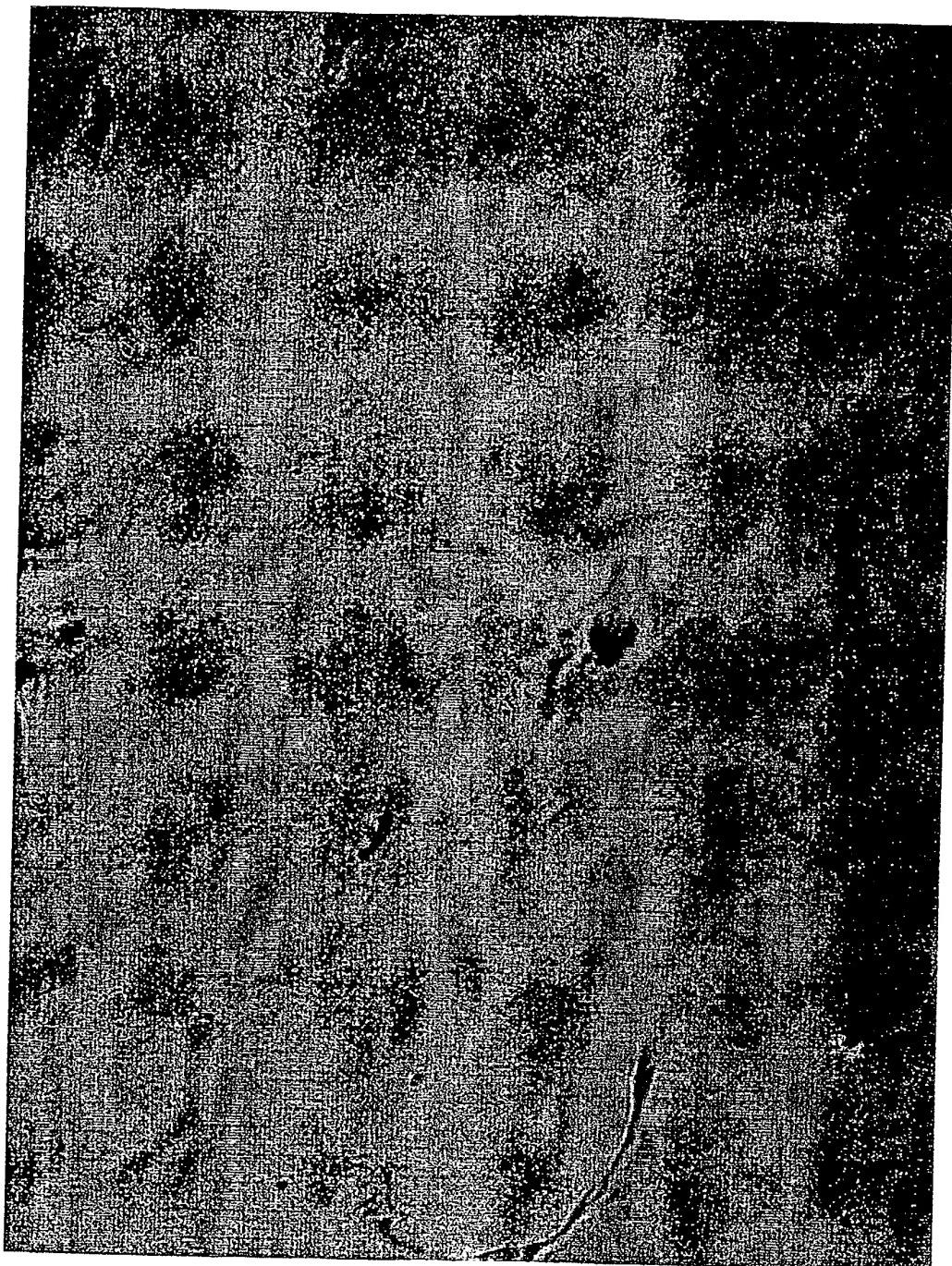


Fig. 17.

pD12JCVPlong-hCNTF

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Length: 7969 July 22, 1999

1 GCTAGCGATT TAGGTGACAC TATAGAATAG ATCtcgacnn nGTCACCCCT
51 AGAGTCGAGC TGTGACGGTC CTTACAATGA AATGCANCTG GGTTATCTTC
101 TTCCTGATGG CAGGGGTTAC AGGTAAGGGG CTCCCAAGTC CCAAACCTGA
151 GGGTCCATAA ACTCTGTGAC AGTGGCAATC ACTTTGCCTT TCTTTCTACA
201 GGGGTGAATT CGGCTTCAC AGAGCATTCA CCGCTGACCC CTCACCGTCG
251 GGACCTCTGT AGCCGCTCTA TCTGGCTAGC AAGGAAGATT CGTTCAGACC
301 TTGACTGCTC TTACGGAATC CTATGTAAGT TGCCTATTT GCTGTTATCT
351 GTTTTCCCTT CATCTTTTT GATCCAGCAA CTTACCATCA CGCATICAGCT
401 CCATTACCAA TTGTGAAAGC TCTAACATA TAGTCATTCA TATAGTTAT
451 TTGACATGGG CCCTTCCCTT GAGGAAACCC ATGTGACTTT ATTTTCTTCC
501 TCTGGCTGT TTAGGAGATG AAGTTACTTG AATGAGAAAA TATATATGGA
551 GTTCTAGAAA GGATTGGTTT ATATGTCTTG GAGGCTATT CAAAATTTAT
601 TTGGCCATAT ATTCTGAATA CTACCTAGAA CAGATTAGCC ATGGGCCTN
651 TGGGTTNTTC ATAAGCCATT GTTCTGAANT TTTTAGCTT TGAAATGAA
701 AGGTTATGG GATAGGAAGA GTNCTATGAA CGTGGGAGGA ATTTGTAAAT
751 CCTACCAATT TTNCTATAT AGCATTAGCC CCCACCTTTT ANTATTCTGC
801 ATCAAAAGTA AGATTGTGTC TAAAGAGAAA GGTNAGCTAT CAAAAGGACT
851 CCTATAANAT TCNTTGGAAA CTTNTGGAAN TGTCAAATT NTTTGAGCTA
901 ATTNTTGGAG TTCCAAANTT TGTCTNTNA CAGTNAAGGG GGANCCCCAT
951 TCANATTTNC CCCCTNNNG ANAATGCTTG GGGGAAAAAA CCTNCCAACC
1001 CCNTTGTGGG ANGAAGTTTT TTTAANNNTT TAAGGCTNGN NGAAACNGGN
1051 TTTTAATTNTT TTGGGNCNAN CGCCTNTCCC CGGTACCAAGG AAAATCAGGA
1101 CCTNTTTTG GGGNNNGNCN CCNACNGGG GGNAAAANGG GAAATTCNT
1151 CANAAAAAAAT CTTTCCGnn nnnngtgaag catcaggccc tgaacaagaa
1201 catcaacctg gactctgcgg atggatgcc agtggcaagc actgatcagt
1251 ggagtgagct gaccgaggca gagcgactcc aagagaacct tcaagcttat

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1301 cgtacccccc atgtttgtt ggccaggctc tttagaagacc agcagggcga
1351 ttttacccca accgaagggtg acttccatca agctatacat acccttcttc
1401 tccaagtgcg tgcctttgca taccagatag aggagttaat gatactcctg
1451 gaatacaaga toccccgcaa tgaggctgat gggatgccta ttaatgttgg
1501 agatggtggt ctctttgaga agaagctgtg gggcctaaag gtgctgcagg
1551 agctttcaca gtggacagta aggtccatcc atgaccttcg tttcatttct
1601 tctcatcaga ctgggatccc agcacgtggg agccattata ttgctaacaa
1651 caagaaaatg tagnnnnnngc ggccTGCGCC GTCTTCCCCG ACAGTTAAAGG
1701 GATGAAACCA CAAGACTTAC CTTCGCTCGG AAGTAAAACG ACAAACACAC
1751 ACAGTTTGC CCGTTTCAT GAGAAATGGG ACGTCTGCGC ACGAAACGCG
1801 CCGTCGTTG AGGAGGACTT GTACAAACAC GATCTATGCA GGTTTCCCCA
1851 ACTGACACAA ACCGTGCAAC TTGAAACTCC GCCTGGTCTT TCCAGGTCTA
1901 GAGGGGTAAC ATTTGTACT GTGTTGACT CCACGCTCGA TCCACTAGCG
1951 AGTGTAGTA GCGGTACTGC TGTCTCGTAG CGGAGCATGT TGGCCGTGGG
2001 AACACCTCCT TGGTAACAAG GACCCACGGG GCCGAAAGCC ATGTCCTAAC
2051 GGACCCAACA TGTGTGCAAC CCCAGCACGG CAGCTTTACT GTGAAACCCA
2101 CTTCAAGGTG ACATTGATAC TGGTACTCAA ACACGGTGA CAGGCTAAGG
2151 ATGCCCTCA GGTACCCCGA GGTAAACAAGC GACACTCGGG ATCTGAGAAG
2201 GGGACTGGGA CTTCTTTAAA GTGCCAGTT TAAAAAGCTT CTACGCTGAA
2251 ATAGGTGACC GGAGGCCGGC ACCTTTCCCTT TTATAACCAC TGAACACATG
2301 GAAGACGCCA AAAACATAAA GAAAGGCCCG GCGCCATTCT ATCCTCTAGA
2351 GGATGGAACC GCTGGAGAGC AACTGCATAA GGCTATGAAG AGATACGCC
2401 TGGTTCTGG AACAAATTGCT TTTACAGATG CACATATCGA GGTGAACATC
2451 ACGTACCCGG AATACTTCGA AATGTCCGTT CGGTTGGCAG AAGCTATGAA
2501 ACGATATGGG CTGAATACAA ATCACAGAAT CGTCGTATGC AGTAAAAACT
2551 CTCTTCATT CTTTATGCCG GTGTTGGCCG CGTTATTAT CGGACTTGCA
2601 GTTGCGCCCG CGAACGACAT TTATAATGAA CGTGAATTGC TCAACAGTAT
2651 GAACATTTCG CAGCCTACCG TAGTGTGTGTTTGT TTCCAAAAAG GGGTTGCAAA

2701 AAATTTGAA CGTGCAAAAA AAATTACCAA TAATCCAGAA AATTATTATC
2751 ATGGATTCTA AAACGGATTA CCAGGGATTT CAGTCGATGT ACACGTTCGT
2801 CACATCTCAT CTACCTCCCG GTTTTAATGA ATACGATTTT GTACCAGAGT
2851 CCTTTGATCG TGACAAAACA ATTGCACTGA TAATGAATTCTCTCTGGATCT
2901 ACTGGGTTAC CTAAGGGTGT GGCCCTTCCG CATAGAACTG CCTGCGTCAG
2951 ATTCTCGCAT GCCAGAGATC CTATTTTGG CAATCAAATC ATTCCGGATA
3001 CTGGGATTT AAGTGTGTT CCATTCCATC ACGGTTTGG AATGTTACT
3051 ACACTCGGAT ATTTGATATG TGGATTTCGA GTCGTCTTAA TGTATAGATT
3101 TGAAGAACAG CTGTTTTAC GATCCCTTCA GGATTACAAA ATTCAAAGTG
3151 CGTTGCTAGT ACCAACCCCTA TTTCAATTCT TCGCCAAAAG CACTCTGATT
3201 GACAAATACG ATTTATCTAA TTACACGAA ATTGCTTCTG GGGGCGCAC
3251 TCTTCGAAA GAAGTCGGGG AAGCGGTTGC AAAACGCTTC CATCTTCCAG
3301 GGATACGACA AGGATATGGG CTCACTGAGA CTACATCAGC TATTCTGATT
3351 ACACCCGAGG GGGATGATAA ACCGGGCGCG GTCGGTAAAG TTGTTCCATT
3401 TTTTGAAGCG AAGGTTGTGG ATCTGGATAC CGGGAAAACG CTGGGGCTTA
3451 ATCAGAGAGG CGAATTATGT GTCAGAGGAC CTATGATTAT GTCCGGTTAT
3501 GTAAACAATC CGGAAGCGAC CAACGCCCTG ATTGACAAGG ATGGATGGCT
3551 ACATTCTGGA GACATAGCTT ACTGGGACGA AGACGAACAC TTCTTCATAG
3601 TTGACCGCTT GAAGTCTTTA ATTAATACA AAGGATATCA GGTGGCCCCC
3651 GCTGAATTGG AATCGATATT GTTACAACAC CCCAACATCT TCGACGGGG
3701 CGTGGCAGGT CTTCCCGACG ATGACGCCGG TGAACCTCCC GCCGCCGTTG
3751 TTGTTTGGA GCACGGAAAG ACGATGACGG AAAAAGAGAT CGTGGATTAC
3801 GTCGCCAGTC AAGTAACAAAC CGCGAAAAG TTGCGCGGAG GAGTTGTGTT
3851 TGTGGACGAA GTACCGAAAG GTCTTACCGG AAAACTCGAC GCAAGAAAAA
3901 TCAGAGAGAT CCTCATAAAG GCCAAGAAGG GCGGAAAGTC CAAATTGTAA
3951 AATGTAACTG TATTCAAGCGA TGACGAAATT CTTAGCTATT GTAATGACTC
4001 TAGAGGATCT TTGTGAAGGA ACCTTACTTC TGTGGTGTGA CATAATTGGA
4051 CAAACTACCT ACAGAGATT AAAGCTCTAA GGTAATATA AAATTTTAA

4101 GTGTATAATG TGTTAAACTA CTGATTCTAA TTGTTTGTGT ATTTTAGATT
4151 CCAACCTATG GAACTGATGA ATGGGAGCAG TGGTCCAATG CCTTTAATGA
4201 GGAAAACCTG TTTGCTCAG AAGAAATGCC ATCTAGTGAT GATGAGGCTA
4251 CTGCTGACTC TCAACATTCT ACTCCTCCAA AAAAGAAGAG AAAGGTAGAA
4301 GACCCCAAGG ACTTCCTTC AGAATTGCTA AGTTTTTGA GTCATGCTGT
4351 GTTTAGTAAT AGAACTCTTG CTTGCTTTGC TATTTACACC ACAAAGGAAA
4401 AAGCTGCACT GCTATACAAG AAAATTATGG AAAAATATTG TGTAACCTTT
4451 ATAAGTAGGC ATAACAGTTA TAATCATAAC ATACTGTTTT TTCTTACTCC
4501 ACACAGGCAT AGAGTGTCTG CTATTAATAA CTATGCTCAA AAATTGTGTA
4551 CCTTTAGCTT TTTAATTGT AAAGGGGTTA ATAAGGAATA TTTGATGTAT
4601 AGTGCCTTGA CTAGAGATCA TAATCAGCCA TACCACATTG GTAGAGGTTT
4651 TACTTGCTTT AAAAAACCTC CCACACCTCC CCCTGAACCT GAAACATAAA
4701 ATGAATGCAA TTGTTGTTGT TAACTTGTTT ATTGCAGCTT ATAATGGTTA
4751 CAAATAAACG AATAGCATCA CAAATTCAC AAATAAAGCA TTTTTTCAC
4801 TGCATTCTAG TTGTTGGTTG TCCAAACTCA TCAATGTATC TTATCATGTC
4851 TGGATCCCCG GGTCCCTATA GTGACTCGTA TTAGCTTGGC GTAATCATGG
4901 TCATAGCTGT TTCTGTGTG AAATTGTTAT CCGCTCACAA TTCCACACAA
4951 CATACTGAGCC GGAAGCATAA AGTGTAAAGC CTGGGGTGCC TAATGAGTGA
5001 GCTAACTCAC ATTAATTGCG TTGCGCTCAC TGCCCGCTTT CCAGTCGGGA
5051 AACCTGTCGT GCCAGCTGCA TTAATGAATC GGCCAAACGCG CGGGGAGAGG
5101 CGGTTGCGT ATTGGGCGCT CTTCCGCTTC CTCGCTCACT GACTCGCTGC
5151 GCTCGGTGCGT TCGGCTGCGG CGAGCGGTAT CAGCTCACTC AAAGGCGGT
5201 ATACGGTTAT CCACAGAATC AGGGGATAAC GCAGGAAAGA ACATGTGAGC
5251 AAAAGGCCAG CAAAAGGCCA GGAACCGTAA AAAGGCCCGG TTGCTGGCGT
5301 TTTTCCATAG GCTCCGCCCC CCTGACGAGC ATCACAAAAA TCGACGCTCA
5351 AGTCAGAGGT GCGGAAACCC GACAGGACTA TAAAGATACC AGGCCTTCC
5401 CCCTGGAAGC TCCCTCGTGC GCTCTCCTGT TCCGACCCCTG CCGCTTACCG
5451 GATACTGTC CGCCTTCTC CCTTCGGAA GCGTGGCGCT TTCTCAATGC

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5501 TCACCGCTGTA CGTATCTCA GTCGGGTAG GTCGTTGCCT CCAAGCTGGG
 5551 CTGTGTGCAC GAACCCCCCG TTCAGCCGA CCGCTGCGCC TTATCCGGTA
 5601 ACTATCGTCT TGAGTCCAAC CCGGTAAGAC ACGACTTATC GCCACTGGCA
 5651 GCAGCCACTG GTAACAGGAT TAGCAGAGCG AGGTATGTAG GCGGTGCTAC
 5701 AGAGTTCTTG AAGTGGTGGC CTAACTACGG CTACACTAGA AGGACAGTAT
 5751 TTGGTATCTG CGCTCTGCTG AAGCCAGTTA CCTTCGGAAA AAGAGTTGGT
 5801 AGCTCTTGAT CCGGCAAACA AACCAACCGCT GGTAGCGGTG GTTTTTTTGT
 5851 TTGCAAGCAG CAGATTACGC GCAGAAAAAA AGGATCTCAA GAAGATCCTT
 5901 TGATCTTTTC TACGGGGTCT GACGCTCAGT GGAACGAAAA CTCACGTTAA
 5951 GGGATTTTGG TCATGAGATT ATCAAAAAGG ATCTTCACCT AGATCCCTTT
 6001 AAATAAAAAA TGAAGTTTA AATCAATCTA AAGTATATAT GAGTAAACTT
 6051 GGTCTGACAG TTACCAATGC TTAATCAGTG AGGCACCTAT CTCAGCGATC
 6101 TGTCTATTTC GTTCATCCAT AGTTGCCCTGA CTCCCCGTG TGAGATAAAC
 6151 TACGATAACGG GAGGGCTTAC CATCTGGCCC CAGTGCTGCA ATGATAACCGC
 6201 GAGACCCACG CTCACCGGCT CCAGATTTAT CAGCAATAAA CCAGCCAGCC
 6251 GGAAGGGCCG AGCGCAGAAG TGGTCCTGCA ACTTTATCCG CCTCCATCCA
 6301 GTCTATTAAT TGTTGCCGGG AAGCTAGAGT AAGTAGTTCG CCAGTTAATA
 6351 GTTTGCGCAA CGTTGTTGCC ATTGCTACAG GCATCGTGGT GTCACGCTCG
 6401 TCGTTGGTA TGGCTTCATT CAGCTCCGGT TCCCAACGAT CAAGGGGAGT
 6451 TACATGATCC CCCATGTTGT GCAAAAAGC GGTTAGCTCC TTCGGTCCTC
 6501 CGATCGTTGT CAGAAGTAAG TTGGCCGCAG TGTTATCACT CATGGTTATG
 6551 GCAGCACTGC ATAATTCTCT TACTGTCATG CCATCCGTAA GATGCTTTTC
 6601 TGTGACTGGT GAGTACTCAA CCAAGTCATT CTGAGAATAG TGTATGCGGC
 6651 GACCGAGTTG CTCTGCCCG GCGTCAATAC GGGATAATAC CGCGCCACAT
 6701 AGCAGAACTT TAAAAGTGCT CATCATTGGA AAACGTTCTT CGGGGGGAAA
 6751 ACTCTCAAGG ATCTTACCGC TGTTGAGATC CAGTTCGATG TAACCCACTC
 6801 GTGCACCCAA CTGATCTTCA GCATCTTTA CTTTCACCAAG CGTTCTGGG
 6851 TGAGCAAAAA CAGGAAGGCA AAATGCCGCA AAAAAGGGAA TAAGGGCGAC

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ACGGAAATGT TGAATACTCA TACTCTTCCT TTTTCAATAT TATTGAAGCA
TTTATCAGGG TTATTGTCTC ATGAGCGGAT ACATATTGA ATGTATTTAG
AAAAATAAAC AAATAGGGGT TCCGGCACA TTTCCCCGAA AAGTGCCACC
TGACGTCTAA GAAACCATTA TTATCATGAC ATTAACCTAT AAAAATAGGC
GTATCACGAG GCCCTTTCGT CTCGCGCGT TCAGGTGATGA CGGTGAAAAC
CTCTGACACA TGAGCTCCC GGAGACGGTC ACAGCTTGTC TGTAAGCGGA
TGCCGGGAGC AGACAAGCCC GTCAGGGCGC GTCAGCGGGT GTTGGCGGGT
GTCGGGGCTG GCTTAACTAT GCGGCATCAG AGCAGATTGT ACTGAGAGTG
CACCATATGC GGTGTGAAAT ACCGCACAGA TCGCTAAGGA GAAAATACCG
CATCAGGCGC CATTGCCAT TCAGGCTGCG CAACTGTTGG GAAGGGCGAT
CGGTGCCGGC CTCTTCGCTA TTACGCCAGC TGGCGAAAGG GGGATGTGCT
GCAAGGCGAT TAAGTTGGGT AACGCCAGGG TTTTCCCAGT CACGACGTTG
TAAAACGACG GCCAGTGAAT TTCGACCTGC AGTCGACAGA AGCCTTACGT
GACAGCTGGC GAAGAACCAT GGCCAGCTGG TGACAAGCCA AAACAGCTCT
GGCTCGAAA ACATGTTCCC TTGGCTGCTT TCCACTTCCC CTTGTGCTTT
GTTTACTTGT GTCAGCTGGT TGGCTCCCTA GGTATGAGCT CATGCTTGGC
TGGCAGCCAT CCAGTTTAG CCAGCTCTGC TTTGTTTACT TGTGTCAGCT
GGTTGGCTCC CTAGGTATGA GCTCATGCTT GGCTGGCAGC CATCCAGTTT
TAGCCAGCTC CTCCCTACCT TCCCTTTTT TTATATATAC AGGAGGCCGA
GGCCGCCTCC GCCTCCAAGC TTACTCAGAA GTAGTAAGGG CGTGGAGGCT
TTTTAGGAGG CCAGGGAAAT TCCCTTGTTT TTCCCTTTTT TGCAGTAATT
TTTGCTGCA AAAAGCTAA

Fig. 18

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JCVPlong-gdnf Length: 6971 June 8, 1999 16:42 Type: N Check: 3588

1 GCTAGCGATT TAGGTGACAC TATAGAATAG ATCCCCATGA AGTTATGGGA
 51 TGTCGGCT GTCTGGCTTG TGCTGCTCCA CACCGCGTCC GCCTTCCC
 101 TGCCCGCCGG TAAGAGGCCT CCCGAGGCCG CCGCCGAAGA CGCCTCC
 151 GGCCGCCGCC GCGCGCCCTT CGCGCTGAGC AGTGAATCAA ATATGCCAGA
 201 GGATTATCCT GATCAGTTCG ATGATGTCAT GGATTTTATT CAAGCCACCA
 251 TTAAAAGACT GAAAAGGTCA CCAGATAAAC AAATGGCAGT GCTTCCTAGA
 301 AGAGAGCGGA ATCGGGCAGGC TGCAGCTGCC AACCCAGAGA ATTCCAGAGG
 351 AAAAGGTCGG AGAGGCCAGA GGGGCAAAAA CGGGGGTTGT GTCTTAAC
 401 CAATACATTAAATGTA GACTTGGGTC TGGGCTATGA ACCAAGGAG
 451 GAACTGATTT TTAGGTACTG CAGCGGCTCT TGCGATGAG CTGAGACAAC
 501 GTACGACAAA ATATTGAAAA ACTTATCCAG AAATAGAAGG CTGGTGAGTG
 551 ACAAAAGTAGG GCAGGCATGT TGCAGACCCA TCGCCTTGA TGATGACCTG
 601 TCCTTTTATG ATGATAACCTT GGTTTACCAT ATTCTAAGAA AGCATTCC
 651 TAAAAGGTGT GGATGTATCT GACTGGTGC CCGCTTTC CGACGTTAAA
 701 GGGATGAAAC CACAAGACTT ACCTTCGCTC GGAAGTAAAA CGACAAACAC
 751 ACACAGTTT GCCCGTTTTC ATGAGAAATG GGACGTCTGC GCACGAAACG
 801 CGCCGTCGCT TGAGGAGGAC TTGTACAAAC ACGATCTATG CAGGTTTCCC
 851 CAACTGACAC AACCCGTGCA ACTTGAACACT CCGCCTGGTC TTTCCAGGTC
 901 TAGAGGGTA ACATTTGTA CTGTGTTGA CTCCACGCTC GATCCACTAG
 951 CGAGTGTAG TAGCGGTACT GCTGTCCTG AGCCGACCAT GTTGGCCGTG
 1001 GGAACACCTC CTTGGTAACA AGGACCCAG GGGCCGAAAG CCATGCTCTA
 1051 ACGGACCCAA CATGTTGCA ACCCCAGCAC GGCAGCTTTA CTGTGAAACC
 1101 CACTTCAAGG TGACATTGAT ACTGGTACTC AAACACTGGT GACAGGCTAA
 1151 GGATGCCCTT CAGGTACCC GAGGTAAACAA GCGACACTCG GGATCTGAGA
 1201 AGGGGACTGG GACTTCTTTA AAGTGCCAG TTTAAAAGG TTCTACGCT
 1251 GAATAGGTGA CCGGAGGCCG GCACCTTCC TTTTATAACC ACTGAACACA
 1301 TGGAAAGACGC CAAAAACATA AAGAAAAGGC CGGGGCCATT CTATCCTCTA
 1351 GAGGATGGAA CGCCTGGAGA GCAACTGCAT AAGGCTATGA AGAGATACGC
 1401 CCTGGTTCTT GGAAACAATTG CTTTTACAGA TGACATATC GAGGTGAACA
 1451 TCACGTACCG GGAATACTTC GAAATGTCAG TTCGGTTGGC AGAAGCTATG
 1501 AAACGATATG GGCCTGAATAC AATACACAGA ATCCTCGTAT GCAGTGAAGA
 1551 CTCTCTTCAA TTCTTTATGC CGGTGTTGG CGCGTTATTT ATCGGAGITG
 1601 CAGTTGCGCC CGCGAACGAC ATTTATAATG AACGTGAATT GCTCAACAGT
 1651 ATGAACATTT CGCAGCCTAC CGTAGTGTGTT GTTTCAAAA AGGGGTTGCA
 1701 AAAAATTGGT AACGTGAAAG AAAAATTACG AATAATCCAG AAAAATTATTA
 1751 TCATGGATTCA TAAAACGGAT TACCAAGGGAT TTCACTGCGAT GTACACGTT
 1801 GTCACATCTC ATCTACCTCC CGGTTTTAAT GAAATCGATT TTGTACCA
 1851 GTCCCTTGTATGC CGTGACAAAAA CAATTGCAC GATAATGAAT TCCCTGGAT
 1901 CTACTGGGTT ACCTAAGGGT GTGGCCCTTC CGCATAGAAC TGCCTGCGTC
 1951 AGATTCTCGC ATGCCAGAGA TCCCTATTTT GGCAATCAA TCATTCCGGA
 2001 TACTGGCTT TTAAGTGTG TTCCATTCCA TCACGGTTTT GGAATGTTTA
 2051 CTACACTCGG ATATTTGATA TGTTGATTTC GAGTCGTCTT AATGTATAGA
 2101 TTGAGAAGAG AGCTGTTGAT ACGATCCCTT CAGGATTACA AAATTCAAAG
 2151 TGCCTTGCTA GTACCAACCC TATTTTCATT CTTCGCCAAA ACCACTCTGA
 2201 TTGACAAATA CGATTTATCT AATTTCACAG AAATTGCTTC TGGGGGGCGA
 2251 CCTCTTCGA AAGAACCTGG GGAAGCGGTT GCAAAACGCT TCCATCTTCC
 2301 AGGGATACGA CAAGGATATG GGCTCACTGA GACTCATCA GCTATTCTGA
 2351 TTACACCGGA GGGGGATGAT AAACCGGGCG CCGTCGGTAA AGTTGTTCCA
 2401 TTTTTGAAAG CGAAGGGTGT GGATCTGGAT ACCGGGAAA CGCTGGCGT
 2451 TAATCAGAGA GGCAGATTAT GTGTCAGAGG ACCTATGATT ATGTCGGTT
 2501 ATGTAACCAA TCCGGAAAGCG ACCAACGCT TGATTGACAA GGATGGATGG
 2551 CTACATTCTG GAGACATAGC TTACTGGGAC GAAGACGAAC ACTTCTTCAT
 2601 AGTTGACCGC TTGAAAGTCTT TAATTAAATA CAAAGGATAT CAGGTGGCCC
 2651 CCGCTGAATT GGAATCGATA TTGTTACAAAC ACCCCAAACAT CTTCGACGCG
 2701 GGCCTGGCAG GTCTTCCCGA CGATGACGCC GGTGAACCTC CCGCCGCGT
 2751 TGTTGTTTG GAGCAGCGAAG AGACGATGAC GGAAAAAGAG ATCGTGGATT
 2801 ACGTCGCCAG TCAAGTAACA ACCCGCGAAAA AGTTGCGCGG AGGAGTTGTG
 2851 TTGTTGGAGC AAGTACCGAA AGGTCTTACG GGGAAAACCTCG ACGCAAGAAA
 2901 AATCAGAGAG ATCCCTCATAA AGGCCAAGAA GGGCGGAAAG TCCAAATTGT
 2951 AAAATGTAAC TGTATTGAGC GATGACGAAAG TCTCTAGCTA TTGTAATGAC
 3001 TCTAGAGGAT CTTGTTGAAG GAAACCTTACT TCTGTGGTGT GACATAATTG
 3051 GACAAACTAC CTACAGAGAT TTAAAGCTCT AAGGTTAAATA TAAAATTTTT
 3101 AAGTGTATAA TGTGTTAAAC TACTGATTCTT AATTGTTGT GTATTTTGA
 3151 TTCCAACCTA TGGAAACTGAT GAAATGGGAGC AGTGGTGGAA TCCCTTTAAT
 3201 GAGGAAAACC TGTGTTGCTC AGAAGAAATG CCATCTACTG ATGATGAGGC

3251 TACTGCTGAC TCTCAACATT CTACTCCTCC AAAAAAGAAG AGAAAGGTAG
3301 AAGACCCAA GGACTTTCT TCAGAATTGC TAAGTTTTT GAGTCATGCT
3351 GTGTTAGTA ATAGAACTCT TGCTTGCTTT GCTATTACCA CCACAAAGGA
3401 AAAAGCTGCA CTGCTATACA AGAAAATTAT GGAAAAATAT TCTGTAACCT
3451 TTATAAGTAG GCATAACAGT TATAATCATA ACATACTGTT TTTTCTTA
3501 CCACACAGGC ATAGAGTGTG TGCTATTAAT AACTATGCTC AAAAATTGTG
3551 TACCTTAGC TTTTAATT GTAAAGGGGT TAATAAGGAA TATTGATGT
3601 ATAGGCCCT GACTAGAGAT CATAATCAGC CATACACAT TTGTAGAGGT
3651 TTTACTTGCT TTTAAACCC TCCCACACCT CCCCTGAAAC CTGAAACATA
3701 AAATGAATGC AATTGTTGTT GTTAACTTGT TTATTGCAGC TTATAATGGT
3751 TACAAATAAA GCAATAGCAT CACAAATTTC ACAAAATAAG CATTTC
3801 ACTGCATTCT AGTTGTGGT TGTCCAAACT CATCAATGTA TCTTATCATG
3851 TCTGGATCCC CGGGTCCCTA TAGTGAGTCG TATTAGCTTG GCGTAATCAT
3901 GGTCACTAGCT GTTCCCTGTT TGAAATTGTT ATCCGCTCAC AATTCCACAC
3951 AACATACGAG CGGGAAGCAT AAAGTGTAAA GCCTGGGGTG CCTAATGAGT
4001 GAGCTAATC ACATTAATTG CGTTGCGCTC ACTGCCCCGT TTCCAGTCGG
4051 GAAACCTGTC GTGCCAGCTG CATTAAATGAA TCGGCCAACG CGCGGGGAGA
4101 GGCGGTTTGC GTATTGGCG CTCTTCCGCT TCTCGCTCA CTGACTCGCT
4151 GCGCTCGGTC GTTCGGCTGC GGCGAGCGGT ATCAGCTCAC TCAAAGCGG
4201 TAATACGGTT ATCCACAGAA TCAGGGGATA ACCGAGGAAA GAACATGTGA
4251 GCAAAAGGCC AGCAAAAGGC CAGGAACCGT AAAAGGGCCG CGTTGCTGGC
4301 GTTTTCCAT AGGCTCGGCC CCCCTGACGA GCATCACAAA AATCGACGCT
4351 CAAGTCAGAG GTGGCGAAC CCGACAGGAC TATAAAGATA CCAGCGTTT
4401 CCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTCCGACCC TGCCGCTTAC
4451 CGGATACCTG TCCGCTCTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCAAT
4501 GCTCACGCTG TAGGTATCT AGTTGGTGT AGTCTGTTCG CTCCAAGCTG
4551 GGCTGTGTC ACAGACCCCC CGTTCAAGCCC GACCGCTGCG CCTTATCCGG
4601 TAACTATCGT CTTGAGTCCA ACCCGGTAAG ACACGACTTA TCGCCACTGG
4651 CAGCAGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTATGT AGGCGGTGCT
4701 ACAGAGTTCT TGAAGTGGTGC GCCTAACTAC GGCTACACTA GAAGGACAGT
4751 ATTTGGTATC TGGCCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTTG
4801 GTAGCTCTTG ATCCGGCAAA CAAACACCCG CTGGTAGCGG TGGTTTTTT
4851 GTTGCAGGAG AGCAGATTAC CGCGAGAAAA AAAGGATCTC AAGAAGATCC
4901 TTGATCTTT TCTACGGGGT CTGACGCTCA GTGGAACGAA AACTCACGTT
4951 AAGGGATTTT GGTATGAGA TTATCAAAA GGATCTTCAC CTAGATCCTT
5001 TAAATTAAA AATGAAGTT TAAATCAATC TAAAGTATAT ATGAGTAAAC
5051 TTGGTCTGAC AGTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA
5101 TCTGTCTATT CGTGTCTAC ATAGTTGCCT GACTCCCCGT CGTGTAGATA
5151 ACTACGATAC GGGAGGGCTT ACCATCTGGC CCCAGTGCTG CAATGATACC
5201 GCGAGACCCA CGCTCACCGG CTCCAGATT ATCGCAATA AACCAAGCCAG
5251 CCGGAAGGGC CGAGCGCAGA AGTGGCTCTG CAACTTATC CGCCTCCATC
5301 CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT CGCCAGTTAA
5351 TAGTTGCGC AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTCACGCT
5401 CGTCGTTGG TATGGCTTC TTCAGCTCCG GTTCCCAACG ATCAAGGGCA
5451 GTTACATGAT CCCCCATGTT GTGCAAAAAA GCGGTTAGCT CCTTCGGTCC
5501 TCCGATCGTT GTCAGAAGTA AGTTGGCCGC AGTGGTTATCA CTCATGGTTA
5551 TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCCGT AAGATGCTTT
5601 TCTGTGACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAT AGTGTATGCG
5651 GCGACCGAGT TGCTCTTGCC CGGCGTCAAT ACGGGATAAT ACCGCGCAC
5701 ATAGCAGAAC TTAAAAAGTG CTCATCATTG GAAACGTT TTCGGGGCGA
5751 AAACCTCAA GGATCTTACG GCTGTTGAGA TCCAGTTCGA TGTAAACCCAC
5801 TCGTGCACCC AACTGATCTT CAGCATCTT TACTTCACC AGCGTTCTG
5851 GGTGAGCAAA AACAGGAAGG CAAAATGCCG CAAAAAAAGGG AATAAGGGCG
5901 ACACGGAAAT GTTGAATACT CATACTCTTC CTTTTCAAT ATTATTGAAG
5951 CATTATCAG GTTATTGTC TCATGAGCGG ATACATATTG GAATGTATTT
6001 AGAAAATAAA ACAAAATAGG GTTCCGGCA CATTTCCCG AAAAGTGCCA
6051 CCTGACGTCT AAGAAAACCAT TATTATCAG ACATAAACCT ATAAAAAATAG
6101 GCGTATCACG AGGCCCTTTC GTCTCGCGCG TTTCGGTGT GACGGTGAAA
6151 ACCTCTGACA CATGCAGCTC CCGGAGACGG TCACAGCTTG TCTGTAAGCG
6201 GATGCCGGGA CGAGACAAGC CCGTCAGGGC GCGTCAGCGG GTGTTGGCG
6251 GTGTCGGGGC TGGCTTAACG ATGCGGCATC AGAGCAGATT GTACTGAGAG
6301 TGCACCATAT CGGGTGTGAA ATACCGCACA GATGCGTAAG GAGAAAATAC
6351 CGCATCAGGC GCCATTGCGC ATTCAAGCTG CGCAACTGTT GGGAAAGGGCG
6401 ATCGGTGCAG GCCTCTTCGC TATTACGCCA GCTGGCGAAA GGGGGATGTG
6451 CTGCAAGGCG ATTAAGTTGG GTAACGCCAG GTTTCCTTCA GTCACGACGT
6501 TGTAAAACGA CGGCCAGTGA ATTTCGACCT GCAGTCGACA GAAGCCTTAC
6551 GTGACAGCTG GCGAAGAACC ATGGCCAGCT GGTGACAAGC CAAAACAGCT

6601 CTGGCTCGCA AAACATGTTC CCTTGGCTGC TTTCCACTTC CCCTTGTGCT
6651 TTGTTTACTT GTGTCAGCTG GTTGGCTCCC TAGGTATGAG CTCATGCTTG
6701 GCTGGCAGCC ATCCAGTTT AGCCAGCTCT GCTTGTGTTA CTTGTGTCAG
6751 CTGGTTGGCT CCCTAGGTAT GAGCTCATGC TTGGCTGGCA GCCATCCAGT
6801 TTAGCCAGC TCCTCCCTAC CTTCCTTTT TTTTATATAT ACAGGAGGCC
6851 GAGGCCGCT CCGCCTCCAA GCTTACTCAG AAGTAGTAAG GGCGTGGAGG
6901 CTTTTAGGA GGCCAGGGAA ATTCCCTTGT TTTCCCTTT TTTGCAGTAA
6951 TTTTTGCTG CAAAAAGCTA A

Fig. 19

PD12JCVPshort-hCNTF

Length: 7558

1 GCTAGCGATT TAGGTGACAC TATAGAATCt cgacnnGTCA CCCCTAGAGT
51 CGAGCTGTGA CGGTCCCTAAC AATGAAATGC ANCTGGGTTA TCTTCTTCCT
101 GATGGCAGGG GTTACAGGTA AGGGGCTCCC AAGTCCAAA CTTGAGGGTC
151 CATAAACTCT GTGACAGTGG CAATCACTTT GCCTTTCTTT CTACAGGGGT
201 GAATTGGCCT TTCACAGAGC ATTCAACCGCT GACCCCTCAC CGTCGGGACC
251 TCTGTAGCCG CTCTATCTGG CTAGCAAGGA AGATTGGTTC AGACCTTGAC
301 TGCTCTTACG GAATCCTATG TAAGTTGCCT ATTTGCTGT TATCTGTTT
351 CCCTTCATCT TTTTGATCC AGCAACTTAC CATCACGCAT CAGCTCCATT
401 ACCAATTGTG AAAGCTCTAA TCATATAGTC ATTCAATATAG GTTATTTGAC
451 ATGGGCCCTT CCCTTGAGGA AACCCATGTG ACTTTATTTT CTTCCTCTGG
501 GCTGTTAGG AGATGAAGTT ACTTGAATGA GAAAATATAT ATGGAGTTCT
551 AGAAAGGATT GGTTTATATG TCTTGGAGGC TATTTCAAAA TTTATTTGGC
601 CATATATTCT GAATACTACC TAGAACAGAT TAGCCATGGG CCCTNTGGGT
651 TNNTCATAAG CCATTGTTCT GAANTTTTT AGCTTTGTAA ATGAAAGGTT
701 TATGGGATAG GAAGAGTNCT ATGAACGTGG GAGGAATTTG TAAATCCTAC
751 CAATTNTNC TATATAGCAT TAGCCCCAC CTTTTANTAT TCTGCATCAA
801 AAGTAAGATT GTGTCTAAAG AGAAAGGTNA GCTATCAAAA GGACTCCTAT
851 AANATTNCNTT GGAAACTTNT GGAANTGTCA AATTTNTTTG AGCTAATTNT
901 TGGAGTTCCA AANTTTGTCT TNTNACAGTN AAGGGGGANC CCCATTCA
951 TTTNCCCCCC TNNNGANAAT GCTTGGGGGA AAAAACCTNC CAACCCCNNT
1001 GTGGGANGAA GTTTTTTAA NNNTTTAAGG CTNGNNGAAA CNNGNTTTA
1051 ATTTTTGGG NCNANCCT NTCCCCGGTA CCAGGAAAAT CAGGACCTNT
1101 TTTTGGGGNN GNGCNCCNAC NGGGGGNAA AANGGGAAAT TTCNTCANAA
1151 AAAATCTTTT CCGnnnnnng tgaagcatca gggcctgaaac aagaacatca
1201 acctggactc tgccggatggg atgccagtgg caagcactga tcagtggagt
1251 gagctgaccg aggcagagcg actccaagag aaccttcaag cttatcgta

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1301 cttccatgtt ttgttggcca ggctcttaga agaccagcag gtgcattta
 1351 ccccaaccga aggtgacttc catcaagcta tacataaccct tcttctccaa
 1401 gtcgctgcct ttgcataccca gatagaggag ttaatgatac tcctggaata
 1451 caagatcccc cgcaatgagg ctgatggat gcctattaat gttggagatg
 1501 gtggtctctt tgagaagaag ctgtgggccc taaaggtgct gcaggagctt
 1551 tcacagtgga cagtaaggtc catccatgac cttcgttca tttcttctca
 1601 tcagactggg atcccagcac gtgggagcca ttatattgct aacaacaaga
 1651 aaatgtagnn nnngcggccT GCGCCGTCTT TCCCGACGTT AAAGGGATGA
 1701 AACCACAAGA CTTACCTTCG CTCGGAAGTA AAACGACAAA CACACACAGT
 1751 TTTGCCGTT TTCATGAGAA ATGGGACGTC TGCGCACGAA ACGCGCCGTC
 1801 GCTTGAGGAG GACTTGTACA AACACGATCT ATGCAGGTTT CCCCCAACTGA
 1851 CACAAACCGT GCAACTTGAA ACTCCGCCTG GTCTTTCCAG GTCTAGAGGG
 1901 GTAACATTTT GTACTGTGTT TGACTCCACG CTCGATCCAC TAGCGAGTGT
 1951 TAGTAGCGGT ACTGCTGTCT CGTAGCGGAG CATGTTGGCC GTGGGAACAC
 2001 CTCCTTGGTA ACAAGGACCC ACAGGGCCGA AAGCCATGTC CTAACGGACC
 2051 CAACATGTGT GCAACCCCAG CACGGCAGCT TTACTGTGAA ACCCACTTCA
 2101 AGGTGACATT GATACTGGTA CTCAAACACT GGTGACAGGC TAAGGATGCC
 2151 CTTCAGGTAC CCCGAGGTAA CAAGCGACAC TCGGGATCTG AGAAGGGGAC
 2201 TGGGACTTCT TTAAAGTGCC CAGTTAAAAA AGCTTCTACG CCTGAATAGG
 2251 TGACCGGAGG CCGGCACCTT TCCTTTTATA ACCACTGAAC ACATGGAAGA
 2301 CGCCAAAAAC ATAAAGAAAG GCCCGGGGCC ATTCTATCCT CTAGAGGATG
 2351 GAACCGCTGG AGAGCAACTG CATAAGGCTA TGAAGAGATA CGCCCTGGTT
 2401 CCTGGAACAA TTGCTTTAC AGATGCACAT ATCGAGGTGA ACATCACGTA
 2451 CGCGGAATAC TTGAAATGT CCGTTGGTT GGCAGAACGCT ATGAAACGAT
 2501 ATGGGCTGAA TACAAATCAC AGAATCGTCG TATGCAGTGA AAACCTCTTT
 2551 CAATTCTTAA TGCCGGTGTGTT GGGCGCGTTA TTTATCGGAG TTGCAGTTGC
 2601 GCCCGCGAAC GACATTATA ATGAACGTGA ATTGCTAAC AGTATGAACA
 2651 TTTCGCAAGCC TACCGTAGTG TTTGTTCCA AAAAGGGGTT GCAAAAAAATT

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2701 TTGAACGTGC AAAAAAAATT ACCAATAATC CAGAAAATTA TTATCATGGA
 2751 TTCTAAAACG GATTACCAGG GATTCAGTC GATGTACACG TTCGTCACAT
 2801 CTCATCTACC TCCCGGTTTT AATGAATAACG ATTTTGTACC AGAGTCCTTT
 2851 GATCGTGACA AAACAATTGC ACTGATAATG AATTCCCTCTG GATCTACTGG
 2901 GTTACCTAAG GGTGTGGCCC TTCCGCATAG AACTGCCTGC GTCAGATTCT
 2951 CGCATGCCAG AGATCCTATT TTTGGCAATC AAATCATTCC GGATACTGCG
 3001 ATTTTAAGTG TTGTTCCATT CCATCACGGT TTTGGAATGT TTACTACACT
 3051 CGGATATTTG ATATGTGGAT TTCGAGTCGT CTTAATGTAT AGATTGAAAG
 3101 AAGAGCTGTT TTTACGATCC CTTCAGGATT ACAAAATTCA AAGTGCCTTG
 3151 CTAGTACCAA CCCTATTTTC ATTCTTCGCC AAAAGCACTC TGATTGACAA
 3201 ATACGATTTA TCTAATTTAC ACGAAATTGC TTCTGGGGGC GCACCTCTTT
 3251 CGAAAGAAGT CGGGGAAGCG GTTGCAAAAC GCTTCCATCT TCCAGGGATA
 3301 CGACAAGGAT ATGGGCTCAC TGAGACTACA TCAGCTATTG TGATTACACC
 3351 CGAGGGGGAT GATAAACCGG GCGCGGTGG TAAAGTTGTT CCATTTTTG
 3401 AAGCGAAGGT TGTGGATCTG GATACCGGGA AAACGCTGGG CGTTAATCAG
 3451 AGAGGCGAAT TATGTGTCAG AGGACCTATG ATTATGTCCG GTTATGTAAA
 3501 CAATCCGAA GCGACCAACG CCTTGATTGA CAAGGATGGA TGGCTACATT
 3551 CTGGAGACAT AGCTTACTGG GACGAAGACG AACACTTCTT CATAGTTGAC
 3601 CGCTTGAAGT CTTTAATTAA ATACAAAGGA TATCAGGTGG CCCCCGCTGA
 3651 ATTGGAATCG ATATTGTTAC AACACCCAA CATCTTCGAC GCGGGCGTGG
 3701 CAGGTCTTCC CGACGATGAC GCCGGTGAAC TTCCCGCCGG CGTTGTTGTT
 3751 TTGGAGCAG GAAAGACGAT GACGGAAAAA GAGATCGTGG ATTACGTCGC
 3801 CAGTCAAGTA ACAACCGCGA AAAAGTTGCG CGGAGGAGTT GTGTTGTGG
 3851 ACGAAGTACC GAAAGGTCTT ACCGGAAAAC TCGACGCAAG AAAAATCAGA
 3901 GAGATCCTCA TAAAGGCCAA GAAGGGCGGA AAGTCCAAT TGTAAAATGT
 3951 AACTGTATTG AGCGATGACG AAATTCTTAG CTATTGTAAT GACTCTAGAG
 4001 GATCTTGTG AAGGAACTT ACTTCTGTGG TGTGACATAA TTGGACAAAC
 4051 TACCTACAGA GATTAAAGC TCTAAGGTAA ATATAAAATT TTTAAGTGTAA

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TAATGTGTTA AACTACTGAT TCTAATTGTT TGTGTATTTT AGATTCCAAC
CTATGGAAC T GATGAATGGG AGCAGTGGTG GAATGCCTTT AATGAGGAAA
ACCTGTTTG CTCAGAAGAA ATGCCATCTA GTGATGATGA GGCTACTGCT
GACTCTAAC ATTCTACTCC TCCAAAAAAG AAGAGAAAGG TAGAAGACCC
CAAGGACTTT CCTTCAGAAT TGCTAAGTTT TTTGAGTCAT GCTGTGTTA
GTAATAGAAC TCTTGCTTGC TTTGCTATTT ACACCACAAA GGAAAAAGCT
GCACTGCTAT ACAAGAAAAT TATGGAAAAA TATTCTGTAA CCTTTATAAG
TAGGCATAAC AGTTATAATC ATAACATACT GTTTTTCTT ACTCCACACA
GGCATAGAGT GTCTGCTATT AATAACTATG CTCAAAAATT GTGTACCTT
AGCTTTTAA TTTGTAAGG GGTTAATAAG GAATATTGA TGTATAGTGC
CTTGACTAGA GATCATAATC AGCCATACCA CATTGTAGA GGTTTTACTT
GCTTTAAAAA ACCTCCCACA CCTCCCCCTG AACCTGAAAC ATAAAATGAA
TGCAATTGTT GTTGTAACT TGTTTATTGC AGCTTATAAT GGTTACAAAT
AAAGCAATAG CATCACAAAT TTCACAAATA AAGCATTGTTT TTCACTGCAT
TCTAGTTGTG GTTGTCCAA ACTCATCAAT GTATCTTATC ATGTCTGGAT
CCCCGGGTCC CTATAGTGAG TCGTATTAGC TTGGCGTAAT CATGGTCATA
GCTGTTCCCT GTGTGAAATT GTTATCCGCT CACAATTCCA CACAACATAC
GAGCCGGAAG CATAAAGTGT AAAGCCTGGG GTGCCTAATG AGTGAGCTAA
CTCACATTAA TTGCGTTGCG CTCACTGCC GCTTCCAGT CGGGAAACCT
GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG AGAGGCGGTT
TGCCTATTGG GCGCTCTTCC GCTTCCTCGC TCACTGACTC GCTGCGCTCG
GTCGTTCCGC TGCAGCGAGC GGTATCAGCT CACTCAAAGG CGGTAAATACG
GTTATCCACA GAATCAGGGG ATAACGCAGG AAAGAACATG TGAGCAAAAG
GCCAGCAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT GGCGTTTTC
CATAGGCTCC GCCCCCCCTGA CGAGCATCAC AAAAATCGAC GCTCAAGTCA
GAGGTGGCGA AACCGACAG GACTATAAG ATACCAGGCG TTTCCCCCTG
GAAGCTCCCT CGTGCCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC
CTGTCCGCCT TTCTCCCTTC GGGAAAGCGTG GCGCTTTCTC AATGCTCACG

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5501 CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT TCGCTCCAAG CTGGGCTGTC
5551 TGCACGAACC CCCCGTTCAAG CCCGACCGCT GCGCCTTATC CGGTAACTAT
5601 CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATGCCAC TGGCAGCAGC
5651 CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT GCTACAGAGT
5701 TCTTGAAGTG GTGGCCTAAC TACGGCTACA CTAGAAGGAC AGTATTTGGT
5751 ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC
5801 TTGATCCGGC AAACAAACCA CCGCTGGTAG CGGTGGTTTT TTTGTTGCA
5851 AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAGAAGA TCCTTGATC
5901 TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAAACTCAC GTTAAGGGAT
5951 TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTAAATT
6001 AAAAATGAAG TTTTAAATCA ATCTAAAGTA TATATGAGTA AACTGGTCT
6051 GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTAG CGATCTGTCT
6101 ATTTCGTTCA TCCATAGTTG CCTGACTCCC CGTCGTGTAG ATAACATACGA
6151 TACGGGAGGG CTTACCATCT GGCCCCAGTG CTGCAATGAT ACCGCGAGAC
6201 CCACGCTCAC CGGCTCCAGA TTTATCAGCA ATAAACCAGC CAGCCGGAAG
6251 GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCTCC ATCCAGTCTA
6301 TTAATTGTTG CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT TAATAGTTG
6351 CGCAACGTTG TTGCCATTGC TACAGGCATC GTGGTGTAC GCTCGTCGTT
6401 TGGTATGGCT TCATTCAGCT CCGGTTCCC ACAGATCAAGG CGAGTTACAT
6451 GATCCCCCAT GTTGTGCAAA AAAGCGGTTA GCTCCTTCGG TCCTCCGATC
6501 GTTGTCAAGAA GTAAGTTGGC CGCAGTGGTA TCACTCATGG TTATGGCAGC
6551 ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC TTTTCTGTGA
6601 CTGGTGAGTA CTCAACCAAG TCATTCTGAG AATAGTGTAT GCGGCGACCG
6651 AGTTGCTCTT GCCCGGCGTC AATACGGGAT AATACCGCGC CACATAGCAG
6701 AACTTTAAA GTGCTCATCA TTGGAAAACG TTCTTCGGGG CGAAAACCTCT
6751 CAAGGATCTT ACCGCTGTTG AGATCCAGTT CGATGTAACC CACTCGTGCA
6801 CCCAACTGAT CTTCAAGCAGT TTTTACTTTG ACCAGCGTTT CTGGGTGAGC
6851 AAAAACAGGA AGGCAAAATG CCGCAAAAAA GGGAAATAAGG GCGACACCGA

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6901 AATGTTGAAT ACTCATACTC TTCCCTTTTC AATATTATTG AAGCATTAT
6951 CAGGGTTATT GTCTCATGAG CGGATACATA TTTGAATGTA TTTAGAAAAA
7001 TAAACAAATA GGGGTTCCGC GCACATTCC CCGAAAAGTG CCACCTGACG
7051 TCTAAGAAC CATTATTATC ATGACATTAA CCTATAAAA TAGGCGTATC
7101 ACGAGGCCCT TTCGTCTCGC GCGTTTCGGT GATGACGGTG AAAACCTCTG
7151 ACACATGCAG CTCCCGGAGA CGGTCACAGC TTGTCTGTAA GCGGATGCCG
7201 GGAGCAGACA AGCCCGTCAG GGCGCGTCAG CGGGTGTGG CGGGTGTGG
7251 GGCTGGCTTA ACTATGCGGC ATCAGAGCAG ATTGTACTGA GAGTGCACCA
7301 TATGCGGTGT GAAATACCGC ACAGATGCGT AAGGAGAAA TACCGCATCA
7351 GGCGCCATTG GCCATTCAAG CTGCGCAACT GTTGGGAAGG GCGATCGGTG
7401 CGGGCCTCTT CGCTATTACG CCAGCTGGCG AAAGGGGGAT GTGCTGCAAG
7451 GCGATTAAGT TGGGTAACGC CAGGGTTTC CCAGTCACGA CGTTGTAAA
7501 CGACGGCCAG TGAATTCGA CCTGCAGtcg actttttta tatatacagg
7551 aggccgag

Fig. 20

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JCVPshort-hgdnf Length: 6565 June 8, 1999 16:57 Type: N Check:

1 GCTAGCGATT TAGGTGACAC TATAGAATAG ATCCCCATGA AGTTATGGGA
 51 TGTCGTGGCT GTCTGCCCGG TGCTGCTCCA CACCGCGTCC GCCTTCCC
 101 TGCCCGCCGG TAAGAGGCCT CCCGAGGCAGC CCGCCGAAGA CCGCTCC
 151 GGCGGCCGCC GCGCGCCCTT CGCGCTGAGC AGTGACTCAA ATATGCCAGA
 201 GGATTATCCT GATCAGTTG ATGATGTCAT GGATTTATT CAAGCCACCA
 251 TAAAGAGACT GAAAAGGTCA CCAGATAAAC AAATGGCAGT GCTTCCTAGA
 301 AGAGAGCGGA ATCGGCAGGC TGCAAGCTGCC AACCCAGAGA ATTCCAGAGG
 351 AAAAGGTGG AGAGGCCAGA GGGGCAAAAA CCGGGGTTGT GTCTTA
 401 CAAATACATT AAATGTCAT GACTTGGGTC TGGGCTATGA AACCAAGGAG
 451 GAACTGATTT TTAGGTACTG CAGCGGCTCT TGCGATGCAAG CTGAGACA
 501 GTACGACAAA ATATTGAAAA ACTTATCCAG AAATAGAAGG CTGGTGAGTG
 551 ACAAAAGTAGG GCAGGCATGT TGCAAGACCA TCGCCTTGA TGATGACCTG
 601 TCCTTTTAGT ATGATAACCT GGTTTACCAT ATTCTAAGAA AGCATTCC
 651 TAAAGGTGT GGATGATCT GACTGGTGC CGCTCTTCC CGACGTTAAA
 701 GGATGAAAC CACAAGACTT ACCTTCGCTC GGAAGTAAAAA CGACAAAC
 751 ACACAGTTT GCGCGTTTC ATGAGAAATG GGACGCTG GCACGAAAC
 801 CGCCGTCGCT TGAGGAGGAC TTGTACAAAC ACGATCTATG CAGGTTCCC
 851 CAACTGACAC AAACCGTGCA ACTTGAAACT CGCCTGGTC TTTCCAGGTC
 901 TAGAGGGTA ACATTTGTA CTGTTGTTGA CTCCACGCTC GATCCACTAG
 951 CGAGTGTAG TAGCGGTACT GCTGTCTCGT AGCGGAGCAT GTGGCCGTG
 1001 GGAACACCTC CTTGGTAACA AGGACCCACCG GGGCGAAAG CCATGTC
 1051 ACGGACCCAA CATGTGTCGA ACCCCAGCAC GGCAGCTTTA CTGTGAAACC
 1101 CACTTCAAGG TGACATTGAT ACTGGTACTC AAACACTGGT GACAGGCTAA
 1151 GGATGCCCTT CAGGTACCC GAGGTAAACAA CGACACTCG GGATCTGAGA
 1201 AGCGGACTGG GACTTCITTA AAGTGCCAG TTTAAAAGC TTCTAC
 1251 GAATAGGTGA CGGGAGGCCG GCACCTTTCC TTTTATAACC ACTGAACACA
 1301 TGGAAAGACGC CAAAACATA AAGAAAGGCC CGGCGCCATT CTATCC
 1351 GAGGATGGAA CGCTGGAGA GCAACTGCAT AAGGCTATGA AGAGATACGC
 1401 CCTGGTTCCCT GGAACAATTG CTTTACAGA TGACATATC GAGGTGAACA
 1451 TCACGTACGC GGAATACTTC GAAATGTCCG TTCGGTGGC AGAAGCTATG
 1501 AAACGATATG GGCTGAATAC AAATCACAGA ATCGTCGTAT GCAGTGA
 1551 CTCTCTCAA TTCTTTATGC CGGTGTTGGG CGCGTTATTG ATCGGAGTTG
 1601 CAGTTGCGCC CGCGAACGAC ATTATAATG AACGTGAATT GCTAACAGT
 1651 ATGAACATTT CGCAGCCTAC CGTAGTTTT GTTCCAAAAA AGGGTTGCA
 1701 AAAAATTTG AACGTGCAAA AAAAATTACC ATAATCCAG AAAATTATTA
 1751 TCATGGATTTC TAAAACGGAT TACCAAGGGAT TTCAGTCGAT GTACAC
 1801 GTCACATCTC ATCTACCTCC CGGTTTAAT GAATACGATT TTGTAC
 1851 GTCTTGTAT CGTGACAAAAA CAATTGCACT GATAATGAAT TCCTCTGGAT
 1901 CTACTGGGTTT ACCTAAGGGT GTGGCCCTC CGCATAGAAC TGCTGCG
 1951 AGATTCTCGC ATGCCAGAGA TCCTATTTC GGCATCAAA TCATTCC
 2001 TACTGCGATT TTAAGTGTG TTCCATTCCA TCACGGTTT GGAATGTTA
 2051 CTACACTCGG ATATTTGATA TGTGGATTTC GAGTCGTCTT AATGTATAGA
 2101 TTTGAAGAAG AGCTGTTTT ACGATCCCTT CAGGATTACA AAATTCAA
 2151 TGCGTTGCTA GTACCAACCC TATTTCATT CTTCGCCAAA ACCACTCTGA
 2201 TTGACAAATA CGATTATCT AATTACACG AAATTGCTTC TGGGGCGCA
 2251 CCTCTTCGA AAGAAGTCGG GGAAGCGGTT GCAAAACGCT TCCATCT
 2301 AGGGATACGA CAAGGATATG GGCTCACTGA GACTACATCA GCTATTCTGA
 2351 TTACACCGA GGGGGATGAT AAACCGGGCG CGGTGGTAA AGTTGTTCCA
 2401 TTTTTGAG CGAAGGTTGT GGATCTGGAT ACCGGGAAAAA CGCTGGCGT
 2451 TAATCAGAGA GGCAGATTAT GTGTCAGAGG ACCATATGATT ATGTC
 2501 ATGAAACAA TCCGGAAAGCG ACCAACCGCT TGATTGACAA GGATGGATGG
 2551 CTACATTCTG GAGACATAGC TTACTGGGAC GAAAGACGAAC ATCTCT
 2601 AGTTGACCGC TTGAAGTCTT TAATTAATA CAAAGGATAT CAGGTGGCCC
 2651 CGCGTGAATT GGAATCGATA TTGTTACAC ACCCCAAACAT TTGCGAC
 2701 GGCCTGGCAG GTCTTCCCGA CGATGACGCC GGTAAGCTTC CGGCCCG
 2751 TGTTGTTTG GAGCACGGGA AGACGATGAC GGGAAAAGAG ATCGTGGATT
 2801 ACGTGCCAG TCAAGTAACA ACCCGAAAAA AGTTGCGCGG AGGAGTTGT
 2851 TTTGTGGACG AAGTACCGAA AGGTCTTACCG GGGAAACTCG ACGCAAGAAA
 2901 AATCAGAGAG ATCCTCATAA AGGCCAAGAA CGCCGGAAAG TCCAAATGT
 2951 AAAATGTAAC TGTTATTCAAGC GATGACGAAA TTCTTAGCTA TTGTAATGAC
 3001 TCTAGAGGAT CTTTGTGAAG GAACCTTACT TCTGTGGTGT GACATAATG
 3051 GACAAACTAC CTACAGAGAT TTAAAGCTCT AAGGTAAATA TAAAATT
 3101 AAGTGTATAA TGTTGTTAAC TACTGATTCT AATTGTTGT GTATT
 3151 TTCCAACCTA TGGAACGTGAAT GAATGGGAGC AGTGGTGGAA TGCTTAA

3201 GAGGAAAACC TGTGTTGCTC AGAAGAAATG CCATCTAGTG ATGATGAGGC
 3251 TACTGCTGAC TCTCAACATT CTACTCCTCC AAAAAAGAAG AGAAAGGTAG
 3301 AAGACCCCAA GGACTTTCCCT TCAGAATTGC TAAGTTTTT GAGTCATGCT
 3351 GTGTTTAGTA ATAGAACTCT TGCTTGCTT GCTATTACA CCACAAAGGA
 3401 AAAAGCTGCA CTGCTATACA AGAAAATTAT GGAAAAATAT TCTGTAACCT
 3451 TTATAAGTAG GCATAAACAGT TATAATCATCA ACATACTGTT TTTTCTTACT
 3501 CCACACAGGC ATAGAGTGTC TGCTATTAA AACTATGCTC AAAATTGTG
 3551 TACCTTAGC TTTTAATTG GTAAAGGGT TAATAAGGA TATTGATGTT
 3601 ATAGTGCCTT GACTAGAGAT CATAATCAGC CATAACCACAT TTGAGGGT
 3651 TTTACTTGCT TAAAAAAACC TCCCACACCT CCCCTGAAAC CTGAAACATA
 3701 AAATGATGC AATTGTTGTT GTAAACTTGT TTATTGAGC TTATAATGGT
 3751 TACAAATAAA GCAATAGCAT CACAAATTTC ACAAAATAAG CATTTTTTC
 3801 ACTGCATTCT AGTTGTTGTT TGTCACAACT CATCAATGTA TCTTATCATG
 3851 TCTGGATCCC CGGGTCCCTA TAGTGAGTCG TATTAGCTTG GCCTAATCAT
 3901 GGTCTAGCT GTTCTCTGTT TGAAATTGTT ATCCGCTCAC AATTCCACAC
 3951 AACATACGAG CGCGAACAT AAAGTGTAA GCCTGGGGTG CCTAATGAGT
 4001 GAGCTAACTC ATCAAATTG CGTTCGGCTC ACTGCCCCGCT TTCCAGTCGG
 4051 GAAACCTGTC GTGCCAGCTG CATTAAATGAA TCAGGCCAACG CGCCGGGAGA
 4101 GGCGGTTGTC GTATTGGCGC CTCTTCCGCT TCCTCGCTCA CTGACTCGCT
 4151 GCGCTCGGTC GTTCGGCTGC GGCGAGCGGT ATCAGCTCAC TCAAAGGCGG
 4201 TAATACGGTT ATCCACAGAA TCAGGGGATA ACGCAGGAAA GAACATGTGA
 4251 GCAAAAAGGCC AGCAGAAAGGC CAGGAACCGT AAAAGGCCG CGTGTCTGGC
 4301 GTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA AATCGACGCT
 4351 CAACTCAGAG GTGGCGAAC CCGACAGGAC TATAAAGATA CCAGCGTTT
 4401 CCCCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC TGCCGTTAC
 4451 CGGATACCTG TCCGCTTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCAAT
 4501 GCTCACGCTG TAGGTATCTC AGTTGGTGT AGGTCGTTCC CTCCAAGCTG
 4551 GGCTGTGTC AGCAACCCCC CGTTCAAGCCC GACCGCTGCG CCTTATCCGG
 4601 TAATACCTGT CTGAGTCCA ACCCGGTAAG ACACGACTTA TCGCCACTGG
 4651 CAGCAGCCAC TGTTAACAGG ATTAGCAGAG CGAGGTATGT AGGCGGTGCT
 4701 ACAGAGTTCT TGAAGTGGT GCCTAACTAC GGCTACACTA GAAGGACAGT
 4751 ATTTGGTATC TGCGCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTTG
 4801 GTAGCTCTTG ATCCGGCAAA CAAACCCACCG CTGGTAGCAG TGGTTTTTT
 4851 GTTGGCAAGC AGCAGATTCA GCGCAGAAA AAAGGATCTC AAGAAGATCC
 4901 TTGATCTTT TCTACGGGGT CTGACGCTCA GTGGAACGAA AACTCACGTT
 4951 AAGGGATTT GGTATGAGA TTATCAAAAA GGATCTTCAC CTAGATCCTT
 5001 TTAAATTAAA AATGAAGTT TAAATCAATC TAAAGTATAT ATGAGTAAAC
 5051 TTGGCTGTC AGCTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA
 5101 TCTGTCTATT TCGTCATCTC ATAGTTGCTC GACTCCCCGT CGTGTAGATA
 5151 ACTACGATAC GGGAGGGCTT ACCATCTGGC CCCAGTCTG CAATGATACC
 5201 GCGAGACCCA CGCTCACCGG CTCCAGATT ATCAGCAATA AACCAAGCCAG
 5251 CCGGAAGGGC CGAGCCAGA AGTGGCTCTG CAACTTTATC CGCTCCATC
 5301 CAGCTTATTG ATTTGGCCG GGAAGCTAGA GTAAGTAGTT CGCAGTTAA
 5351 TAGTTGCGC AACGGTTGTC CCATTGCTAC AGGCATCGTG GTGTCACGCT
 5401 CGTCGTTGG TATGCTTCA TTCAGCTCG GTTCCCAACG ATCAAGGCGA
 5451 GTTACATGAT CCCCCATGTT GTGAAAAAAA CGGGTTAGCT CCTTCGGTCC
 5501 TCCGATCGTT GTCAAGAGTA AGTTGGCCG AGTGTATCA CTCATGGTTA
 5551 TGGCAGCACT GCATAATTCT CTTACTGTC TGCCATCCGT AAGATGCTTT
 5601 TCTGTACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAT AGTGTATGCG
 5651 CGGACCGAGT TGCTCTGCG CGGCGTCAAT ACGGGATAAT ACCCGGCCAC
 5701 ATAGCAGAAC TTAAAGTG CTCATCATG GAAAACGTT TCAGGGCGA
 5751 AAACCTCTAA GGATCTTACCG GCTGTTGAGA TCCAGTCGA TGTAAACCCAC
 5801 TCGTGCACCC AACAGATCTT CAGCATCTT TACTTTACCC AGCGTTTCTG
 5851 GGTGACCAA AACAGGAAGG CAAAATGCCG CAAAAGGG AATAAGGGCG
 5901 ACACGGAAAT GTTAAATCT CATACTCTC CTTTTCAAT ATTATTGAAG
 5951 CATTATCAG GTTATTGTC TCATGAGCGG ATACATATTT GAATGTATTT
 6001 AGAAAAATAA ACAAAATAGGG GTTCCGCGCA CATTTCCTCG AAAAGTGCAC
 6051 CCTGACGCTC AAGAACCAT TATTATCATG ACATTAACCT ATAAGGAAATAG
 6101 GCGTACGAG AGGCCCTTTC GTCTCGCGC TTTCGGTGT GACGGTGAAA
 6151 ACCTCTGACA CATGAGCTC CGGGAGACGG TCACAGCTG TCTGTAAGCG
 6201 GATGCCGGGA GCAGACAAGC CGTCAGGGC GCGTCAGCGG GTGTTGGCGG
 6251 GTGTGGGGC TGGCTTAACT ATGCGGCATC AGAGCAGATT GTACTGAGAG
 6301 TGCAACCATAT GCGGTGTGAA ATACCGCACA GATGCGTAAG GAGAAAATAC
 6351 CGCATCAGGC GCCATTGCGC ATTCAAGGCTG CGCAACTGTT GGGAAAGGGCG
 6401 ATCGGTGCGG GCTCTTCGCG TATTACGCCA GCTGGCGAA GGGGGATGTG
 6451 CTGCAAGGCG ATTAAGTGG GTAACGCCAG GGTTTCCCA GTCACGACGT
 6501 TGTAAACGA CGGCCAGTGA ATTCGACCT GCAGtcgact tttttatat

Fig. 21

6551 atacaggagg ccgag

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6551 atacaggagg ccgag

Fig. 21

pRetroOFF-E6E7 Length: 7840 June 10, 1999 12:21 Type: N Check: 5234

1	TCGAGTTTAC	CACTCCCTAT	CA GTGATAGA	GAAAAGTGAA	AGTCGAGTTT
51	ACCACTCCCT	ATCAGTGATA	GAGAAAAGTG	AAAGTCGAGT	TTACCACTCC
101	CTATCAGTGA	TAGAGAAAAGT	GAAAGTCGAG	TTTACCACTC	CCTATCAGTG
151	ATAGAGAAAAA	GTGAAAAGTCG	AGTTTACACC	TCCCTATCAG	TGATAGAGAA
201	AA GTGAGAAAGT	CGAGTTTAC	ACTCCCTATC	AGTGTAGAG	AAAAGTGAAG
251	TCGAGTTTAC	CACTCCCTAT	CA GTGATAGA	GAAAAGTGAA	AGTCGAGCTC
301	GGTACCCGGG	TCGAGTAGGC	GTGTACGGTG	GGAGGCCAT	ATAACGAGAG
351	CTCGTTAGT	GAACCGTCAG	ATGCCCTGGA	GACGCCATCC	ACGCTGTTTT
401	GACCTCCATA	GAAGACACCG	GGACCGATCC	AGCCTgcggc	cgcagatcta
451	attcaccgg	tagtataaaa	gcagacattt	tatgcaccaa	aagagaactg
501	caatgtttca	ggaccacacag	gagcgacc	gaaagtta	acaggat
551	acagagctgc	aaacaactat	acatgatata	atattagaat	gtgtgtactg
601	acgcaacag	ttactgcgc	gtgagg	tgactttgt	tttccggatt
651	tatgcata	atataagat	ggatccat	atgcgtat	tgataaatgt
701	ttaaagttt	attctaaaat	tagtgagtt	agacatttatt	gttataatgtt
751	gtatggaaca	acattagaac	agaataacaa	caaaccgtg	tgtgtattgt
801	taatttaggt	tattaactgt	caaaagccac	tgtgtcctga	agaaaagcaa
851	agacatctgc	aaaaaaagca	aaggatccat	aatataaggg	gtcggtggac
901	cggtcgtat	atgtctgtt	gcagatcata	aagaacactg	agagaaaacc
951	agctgtat	atgcatgg	atacacctac	attgcata	tatatgttag
1001	atttgcacc	agagacaact	gatctctact	tttatgagca	attaaatgac
1051	agctcagagg	aggaggatga	aatagatgg	ccagctggc	aagcagaacc
1101	ggacagagcc	cattacaata	ttgtAACCTT	tttgtca	tgtgactcta
1151	cgcctcggtt	gtgcgtacaa	agcacacac	tagacattt	tactttggaa
1201	gaccgttta	tggcacact	aggaattgt	ttccccatct	gttctcagaa
1251	accataatct	accatggctg	atccctgcgg	atcccggg	AACAAACA
1301	ATTGCATTCA	TTTTATGTTT	CAGGTTCA	GGGAGGTGTG	GGAGGTTTTT
1351	TAAAGCAAGT	AAAACCTCTA	CAAATGTGGT	ATGGCTGATT	ATGATCCTGC
1401	AAGCCTCGTC	GTCTGGCGG	ACCACGCTAT	CTGTGCAAGG	TCCCCGGACG
1451	CGCGCTCCAT	GAGCAGAGCG	TCGGCCCCC	TACCCACCGT	ACTCGTCAAT
1501	TCCAAGGGCA	TCGGTAAACA	GAGGCCGTA	GGGGGCGGAG	TCGTGGGGGG
1551	TAATCCCGG	ACCCGGGAA	TCGGCTCCC	CCAACATGTC	CAGATCGAAA
1601	TCGCTAGCG	CGTCGGCATG	CGCCATCGC	ACGTCCTCGC	CGTATAAGT
1651	GAGCTCGTCC	CCCAGGCTGA	CATCGGTCGG	GGGGGCCGTC	GACAGTCG
1701	GCGTGTGTCC	CGGGGGAGAA	AGGACAGGCG	CGGAGCCGCC	AGCCCCGCCT
1751	CTTCGGGGGC	GTCGTCGTCC	GGGAGATCGA	GCAGGCCCTC	GATGGTAGAC
1801	CGCTTAATGT	TTTCGTA	CGCGCCGCTG	TACGCCGACC	CACTTTACAA
1851	TTAAAGTGT	TTTCTATATC	CGCATATGAT	CAATTCAAGG	CCGAATAAGA
1901	AGGCTGGCTC	TGCACTTGG	TGATCAAATA	ATTCTGATAGC	TTGTCTTAAT
1951	AATGGCGGCA	TACTATCAGT	AGTAGGTGTT	TCCCTTTCTT	CTTTAGCGAC
2001	TTGATGCTCT	TGATCTTCA	ATACGCAACC	TAAAGTAAAAA	TGCCCCACAG
2051	CGCTGAGTGC	ATATAATGCA	TTCTCTAGT	AAAAACCTTG	TTGGCATAAA
2101	AAGGCTTAAT	GATTTTCGAG	AGTTCTAC	TGTTTTCTG	TAGGCCGTG
2151	ACCTAAATGT	ACTTTGTC	CATCGCGATG	ACTTAGTAAA	GCACATCTAA
2201	AACTTTAGC	GTTATTACGT	AAAAAAATCTT	GCCAGCTTC	CCCTCTAA
2251	GGGCAAAGT	GAGTATGGTG	CCTATCTAAC	ATCTCAATGG	CTAAGGGCTC
2301	GAGCAAAGCC	CGCTTATTT	TTACATGCCA	ATACAATGTA	GGCTGCTCTA
2351	CA CCTAGCTT	CTGGCGAGT	TTACGGGTTG	TAAACCTTC	GATTCCGACC
2401	TCATTAAGCA	GCTCTAATGC	GCTGTTAAC	ACTTTACTTT	TATCTAATCT
2451	AGACATGGT	GAAGCTTTT	GCAAAAGCCT	AGGCCCTCAA	AAAAGCCTCC
2501	TCACTACTTC	TGGAAATAGCT	CAGAGGCCGA	GGCGGCCCTCG	GCCCTGCT
2551	AAATAAAAAA	AATTAGTCAG	CCATGGGCG	GAGAATGGGC	GGAACTGGG
2601	GGAGTTAGGG	GCGGGATGGG	CGGAGTTAGG	GGCGGGACTA	TGGTTGCTGA
2651	CTAATTGAGA	TGCATGCTT	GCATACTTCT	GCCTGCTGGG	GAGCCTGGGG
2701	ACTTTCCACA	CCTGGTGTG	GACTAATTGA	GATGCGATGCT	TTGCATAC
2751	CTGGCTGTG	GGGAGCCTGG	GGACTTTCCA	CACCCCTAAC	GACACACATT
2801	CCACAGGTG	ACTAGATCGA	ATTCTCAATT	GTTTTACGGC	GCCCCGATGCA
2851	TGGGGTCGTG	CGCTCCTTC	GGTGGGCGC	TGCGGGTGTG	GGGGCGGGCG
2901	TCAGGCACCS	CCCTTCCGG	TCATGCACCA	GGTCGCGCG	TCCTTGGGC
2951	ACTCGACGTC	GGCGGTGACG	GTGAAGCCGA	GCCGCTCGTA	GAAGGGGAGG
3001	TTGCGGGGGC	CGGAGGCTC	CAGGAGGCG	GGCACCCCCGG	CGCGCTCGGC
3051	CGCTCCACT	CGGGGGAGCA	CGACCGCGC	GGCCGACAGCC	TTGCCCTGGT
3101	GGTCGGGCGA	GACGCCGACG	GTGGCCAGGA	ACCACGCGGG	CTCTTGGGC
3151	CGGTGCGGCG	CCAGGAGGCC	TTCCATCTG	TGCTGCGCG	CCAGCCGGGA

Fig. 22

3201 ACCGCTCAAC TCGGCCATGC GCGGGCCGAT CTCGGCGAAC ACCGCCCCG
3251 CTTCGACGCT CTCCGGCGTG GTCCAGACCG CCACCGCGGC GCCGCGTCC
3301 GCGACCACCA CCTTGGCGAT GTCGAGCCG ACGCGCGTGA GGAAGAGTTC
3351 TTGCACTCG GTGACCGCCT CGATGTGGCG GTCCGGATCG ACGGTGTGGC
3401 GCGTGGCGGG GTAGTCGGCG AACCGCGCGG CGAGGGTGCG TACGGCCCTG
3451 GGGACGTCGT CGGGGTGGC GAGGCGCACCG GTGGGCTTGT ACTCGGTCA
3501 GGTAAGCTGA TCCGGCCGGC GCCTAGAGAA GGAGTGAGGG CTGGATAAAG
3551 GGAGGATTGA GGCAGGGTCG AAAGAGGAGG TTCAAGGGGG AGAGACGGCG
3601 CGGATGGAAG AAGAGGAGGC GGAGGCTTAG GGTGTACAAA GGCGTTGACC
3651 CAGGGAGGG GCTAAAGAC CAAGGCTTCC CAGGTACCGA TGTAGGGGAC
3701 CTGGTCTGGG TGTCATGCG GGCGAGGTGA AAAGACCTTG ATCTTAACCT
3751 GGGTGTAGAG GTCGCGTTA AAGGTGCGT CTCGCGGCCA TCCGACGTTA
3801 AAGGTTGCC ATTCTGCAGA GCAGAAGGTA ACCCAACGTC TCTCTTGAC
3851 ATCTACCGAC TGGTTGTGAG CGAGCGCTC GACATCTTTC CAGTGATCTA
3901 AGGTCAAACAT TAAGGGAGTG GTAACAGTCT GGCCCTAATT TTCAGACAAA
3951 TACAGAACACA CAGTCAGACA GAGACAACAC AGAACAGATGC TGAGCAGAC
4001 AAGACCGCG CAGTCGGTTC CAAACCGAAA GCAAAATTC AGACGGAGGC
4051 GGGAACTGTT TTAGGTTCTC GTCTCCTACC AGAACCCAT ATCCCTGACGG
4101 GGTCGGATTG CACATCGACT CCCTTCCTCA GGTCGGGCCA CAAAAACGGC
4151 CCCCAAAGTC CCTGGGACGT CTCCCAGGGT TGCGGGCGGG TGTTCAGAAC
4201 TCGTCGATTC CACACGGGT CCGCCAGATA CAGAGCTAGT TAGCTAACTA
4251 GTACCGACGC AGCCGCTAA AATCAGTCAT AGACACTAGA CAATCGGACA
4301 GACACAGATA AGTGCTGGC CAGCTTACCT CCCGGTGTG GGTGGTGGT
4351 CCCTGGGAGC GGGTCTCCCG ATCCCGGACG AGCCCCAAA TGAAAGACCC
4401 CCGCTGACGG GTAGTCAATC ACTCAGAGGA GACCCTCCA AGGAACAGCG
4451 AGACCACAAG TCGGATGCAA CTGCAAGAGG GTTTATTGGA TACACGGGTA
4501 CCCGGGCGC TCAGTCATC GGAGGACTGG CGCCCGGAGT GAGGGGTTGT
4551 GGGCTTTT ATTGAGCTCG GGGAGCAGAA GCGCGCGAAC AGAACGAGA
4601 AGCGAACTGA TTGGTTAGTT CAAATAAGGC ACAGGGTCAT TTCAAGGTCCT
4651 TGGGGCACCC TGGAAACATC TGATGGTTCT CTAGAAACTG CTGAGGGCTG
4701 GACCGCATCT GGGGACCATC TGTTCTTGGC CCTGAGGCCG GGCAGGAAC
4751 GCTTACACCA GATATCCGT TTGGCCCATA TTCAGCTGTT CCATCTGTT
4801 TTGGCCCTGA GCGGGGAGC GAACCTGTTA CCACAGATAT CCTGTTGGC
4851 CCATATTCAG GTCGCAAGGTG GCACCTTTTG GGGAAATGTG CGCGGAACCC
4901 CTATTGTTT ATTTTCTAA ATACATTCAA ATATGTATCC GCTCATGAGA
4951 CAATAACCCCT GATAAAATGCT TCAATAATAT TGAAAAAGGA AGAGTATGAG
5001 TATTCAACAT TTCCGTGTCG CCCATTATTCC CTTTTTGCG GCATTTGCC
5051 TTCCCTGTTT TGCTCACCCA GAAACGCTGG TGAAAGTAAA AGATGCTGAA
5101 GATCAGTGG TGTCACGGAGT GGGTTACATC GAACTGGATC TCAACAGCGG
5151 TAAGATCCTT GAGAGTTTC GCGCCGAAGA ACGTTTCCA ATGATGAGCA
5201 CTTTAAAGT TCTGCTATGT GGCGCGGTAT TATCCCGTGT TGACGCCGGG
5251 CAAGAGCAAC TCGTCGCGC CATAACTAT TCTCAGAATG ACTGGTTGA
5301 GTACTCACCA GTCACAGAAA AGCATCTTAC GGATGGCATG ACAGTAAGAG
5351 AATTATGAG TGCTGCCATA ACCATGAGTG ATAACACTG GCACCACTTA
5401 CTTCTGACAA CGATCGGAGG ACCCGAAGGG CTAACCGCTT TTTGACCAA
5451 CATGGGGAT CATGTAACTC GCCTTGATCG TTGGGAACCG GAGCTGAATG
5501 AAGCCATACC AAACGACGAG CGTGACACCA CGATGCTGT AGCAATGGCA
5551 ACAACGTTGC GCAAACATTAA ACTGGCGAA CTACTTACTC TAGCTTCCCG
5601 GCAACAAATTA ATAGACTGGA TGGAGGGGGA TAAAGTTGCA GGACCACTTC
5651 TGCGCTCGGC CCTTCCGGCT GGCTGGTTTA TTGCTGATAA ATCTGGAGCC
5701 GGTGAGCGTG GGTCTCGCG TATCATTGCA GCACTGGGGC CAGATGGTAA
5751 GCCCTCCCGT ATCGTAGTTA TCTACACGAC GGGGAGTCAG GCAACTATGG
5801 ATGAACGAAA TAGACAGATC CTCGAGATAG GTGCCTCACT GATTAAGCAT
5851 TGGTAACCTGT CAGACCAAGT TTACTCATAT ATACTTCTAGA TTGATTTGCG
5901 GCGGGCCGCA AACTTCATTT TTAATTAAA AGGATCTAGG TGAAGATCCT
5951 TTTTGATAAT CTCATGACCA AAATCCCTTA ACGTGAGTTT TCCTTCCACT
6001 GAGCGTCAGA CCCCGTAGAA AAGATCAAAG GATCTCTTG AGATCCTTTT
6051 TTTCTGCGCG TAATCTGCTG CTGCAAAACA AAAAACCAC CGCTACCGAGC
6101 GGTGGTTTGT TTGGCGGATC AGAGGCTACC AACTCTTTT CCAGAAGGTAA
6151 CTGGCTTCAG CAGAGCGCAG ATACCAAATA CTGCTCTCT AGGTAGCCG
6201 TAGTTAGGCC ACCACTTCAA GAACTCTGTA GCACCGCCTA CATACTCGC
6251 TCTGCTAACG CTGTTACAG GGGCTGCTGC CAGTGGCGAT AAGTCGTGTC
6301 TTACCGGGTT GGACTCAAGA CGATAGTTAC CGGATAAGGC GCAGCGGTGCG
6351 GGCTGACGG GGGGTTCTGT CACACAGCCC AGCTTGAGGC GAACGACCTA
6401 CACCGAACTG AGATACCTAC AGCGTGAGCT ATGAGAAAGC GCCACGCTTC
6451 CGGAAGGGAG AAAGGCGGAC AGGTATCCGG TAAGCGCGAG GGTGGAAACA
6501 GGAGAGCGCA CGAGGGAGCT TCCAGGGGAA AACGCCTGGT ATCTTATAG

Fig. 22

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6551	TCCCTGTCGGG	TTTCGCCACC	TCTGACTTGA	GCGTCGATT	TTGTGATGCT
6601	CGTCAGGGGG	GCGGAGCCTA	TGGAAAAACG	CCAGCAACGC	GGCCTTTTTA
6651	CGGTTCTGG	CCTTTGCTG	GCCTTTGCT	CACATGTTCT	TTCTGCGTT
6701	ATCCCCCTGAT	TCTGTGGATA	ACCGTATTAC	CGCCTTTGAG	TGAGCTGATA
6751	CCGCTCGCCC	CAGCGGAACG	ACCGAGCGCA	GCGAGTCAGT	GAGCGAGGAA
6801	GCGGAAGAGC	GCCAATACGC	AAACCGCTC	TCCCCGCGCG	TTGGCCGATT
6851	CATTAATGCA	ACTATGGCCA	TTTAATGTAA	ATACTTAAGA	AAAAAAACCA
6901	AATTAATTTT	GATACATGCT	GCATGTGAAG	ACCCCCGCTG	ACGGGTAGTC
6951	AATCACTCAG	AGGAGACCT	CCCAAGGCAG	CGAGACCACA	AGTCGAAAT
7001	GAAAAGCCCC	CGCTGACGGG	TAGTCATCA	CTCGAGAGGA	ACCCCTCCAA
7051	GGAACAGCGA	GACCACAAGT	CGGATGCAAC	TGCAAGAGGG	TTTATTGGAT
7101	ACACGGGTAC	CGGGCGCAGT	CAGTCATCG	GAGGACTGGC	GCCCCGAGTG
7151	AGGGGTGTG	GGCTCTTTA	TTGAGCTCGG	GGAGCAGAAAG	CGCGCAAA
7201	GAAGCGAGAA	GCGAACGTAT	TGGTTAGTTC	AAATAAGGCA	CAGGGTCATT
7251	TCAGGTCTT	GGGGCACCT	GGAAACATCT	GATGGTTCTC	TAGAAACTGC
7301	TGAGGGCTGG	ACCGCATCTG	GGGACCATCT	GTTCTTGGCC	CTGAGCGGG
7351	GCAGGAACCTG	CTTACACAG	ATATCTCTGTT	TGGCCCATAT	TCAGCTTTC
7401	CATCTGTCT	TGGCCCTGAG	CGGGGCGAGG	AACCTGCTTAC	CACAGATATC
7451	CTGTTTGGCC	CATATTCACT	TGTTCCATCT	GTTCTTGACC	TTGATCTGAA
7501	CTTCTCTATT	CTCAGTTATG	TATTTTCCA	TGCCCTGCAA	AATGGCGTTA
7551	CTTAAGCTAG	CAGATCTGCT	AGCTGCCAA	ACCTACAGGT	GGGGTCTTTC
7601	ATTCCCCCT	TTTCTGGAG	ACTAAATAAA	ATCTTTTATT	TTATGCGCAC
7651	ATTCCCCCGA	AAAGTGCCAC	CTGACGTCTA	AGAAACCAT	ATTATCATGA
7701	CATTAACCTA	TAAAATAGG	CGTATCACGA	GGCCCTTTCG	TCCGCACATT
7751	TCCCCGAAAA	GTGCCACCTG	ACGCTCTAAGA	AACCATATT	ATCATGACAT
7801	TAACCTATAA	AAATAGGGCT	ATCACGAGGC	CCTTTCGTC	

Fig. 22

pRetroOFF-U19tsa58 Length: 8852

1 TCGAGTTTAC CACTCCCTAT CACTGATAGA GAAAAGTGAA AGTCGACTTT
51 ACCACTCCCT ATCAGTGATA GAGAAAAGTG AAAGTCGAGT TTACCACTCC
101 CTATCAGTGA TAGAGAAAAGT GAAAGTCGAG TTTACCACTC CCTATCAGTG
151 ATAGAGAAAA GTGAAAGTCG AGTTTACCAAC TCCCTATCAG TGATAGAGAA
201 AAGTGAAGT CGAGTTTAC ACTCCCTATC AGTGATAGAG AAAAGTGAAAG
251 TCGAGTTTAC CACTCCCTAT CAGTGATAGA GAAAAGTGAA AGTCGAGCTC
301 GGTACCCGGG TCGAGTAGGC GTGTCACGGT GGAGGCCTAT ATAAGCAGAG
351 CTCGTTAGT GAACCGTCAG ATCGCCTGGA GACGCCATCC ACAGCTGTTT
401 GACCTCCATA GAAGACACCG GGACCGATCC AGCCTGCGGC CGCTTAATT
451 AGTTTAAACG GATCxxxxxx xxxxxxxatgc catctagtga tgatgaggt
501 actgctgact ctcaacattc tactcccca aaaaagaaga gaaaggtaga
551 agacccaaag gactttctt cagaattgtc aagtttttg agtcatgctg
601 tgtttagtaa tagactctt gcttgcttgc ctatttacac cacaaggaa
651 aaagctgcac tgctatacaa gaaaattatg gaaaatatt ctgtaacctt
701 tataagttagg cataacagtt ataatcataa catactgttt ttcttactc
751 cacacaggca tagagtgct gctattaata actatgctca aaaattgtgt
801 accttagctt ttaaatttg taaagggggtt aataaggaat atttgatgt
851 tagtgcctt actagatgc cattttctgt tattggggaa agtttgcac
901 gtgggttaaa ggagcatgt ttaatcccg aagaagcaga gaaaactaaa
951 caagtgtctt ggaagctgt aacaggtat gcaatggaaa caaaatgt
1001 tgatgttttgg ttattgctt ggtatgtactt ggaatttcag tacagtttt
1051 aaatgtgtt aaaaatgtt aaaaaaagaac agcccgccca ctataagtac
1101 catggaaagc attatgcataa tgctgtataa tttgtgtacca gcaaaaacca
1151 aaaaaccata tgccaaacagg ctgttgatac tggttagct aaaaagcggg
1201 ttgtatgcctt acaattaaact agagaacaaa tgtaacaaa cagatttaat
1251 gatctttgg ataggatggc tataatgttt ggttctacag gctctgt
1301 catagaagaa tggatggctg gagttgttt gctacactgt ttgttgc
1351 aaatggattc agtggtgtat gactttttaa aatgcattgtt gtacaacatt
1401 cctaaaaaaa gatactggcgtt tttaaagga ccaattgtata gttggaaaac
1451 tacattagca gtcgtttgc ttgatatttggggggaaa gctttaaatg
1501 ttaatttgcctt ctggacagg ctgaaatggcgtt gtcgttacag gtcgt
1551 cagtttttag tagttttga ggatgtaaag ggcactggag gggagtcc
1601 agatttgcct tcagggtcagg gaattaataa cctggacaat ttaaggggatt
1651 atttggatgg cagtgttaag gtaaacttag aaaagaaaca cctaaataaa
1701 agaactcaaa ttttttttttggatgtac accatgtatc agtacagtgt
1751 gcctaaaaaca ctgcaggccca gatttgcataa acaaataatg tttaggcccc
1801 aagattttttaa aagcattgc ctggaaacgcgtt gtagatgtttt gttagaaaag
1851 agaataattc aaagtggcat tgctttgtt cttatgttaa tttgtgtacag
1901 acctgtggct gagtttgcataa aagttatca gagcagaatt gttggatgg
1951 aagagagatt ggacaaaagag ttttttttttgcgtt gtttttttttgcgtt
2001 ttaatgttgg ctatggatgtt tggatgttttta gatttttttttgcgtt
2051 tgatgtatgtt gaaagacgcgtt aggaaatgtc tgataaaaat gaaatgtt
2101 gggagaagaaa catggaaagac tcagggtcagg aaacaggcat tgattcac
2151 tcccaaggctt catttcaggccctt ccctcagttc tcacagtctt ttcattgt
2201 taatcagccca taccacattt gtagagggtt tactgtctt aaaaaccc
2251 ccacacctcc cctctgaaacctt gaaacataax xxxxxxxxxxxx ggatccccc
2301 GGAACAAACAA CAATTGCTT CATTTTATGT TTCAGGTTCA GGGGGAGGTG
2351 TCGGAGGTTT TTAAAGCAA GTAAAACCTC TACAAATGTG GTATGGCTGA
2401 TTATGATCCT GCAAGCCTCG TCGTCTGCC GGACCACGCT ATCTGTGCAA
2451 GGTCCCCGGG CGCGCGCTCC ATGAGCAGAG CGTCGCGCCC CCTACCCACC
2501 GTACTCGTCA ATTCCAAGGG CATCGGTTAA CAGAGCGCCG TAGGGGGCGG
2551 AGTCGTTGGG GTTAAATCCC GGACCCGGGG AATCCCCGTC CCCAACATG
2601 TCCAGATCGA AATCGTCTAG CGCGTCGGCA TGCGCATCG CCACGTCC
2651 GCCGTATAAG TGGAGCTCGT CCCCCAGGCT GACATCGGTC GGGGGGGCCG
2701 TCGACAGTCT GCGCGTGTGTCG CCGCGGGGAG AAAGGACAGG CGCGGAGCCG
2751 CCAGCCCCCGC CTCTTCGGGG GCGTCGTCGT CCAGGGAGATC GAGCAGGCCC
2801 TCGATGGTAG ACCGCTAATT GTTTTCGTA CGCGCGCGG TGATCGGG
2851 CCCACTTCATCA CATTAAAGTT GTTTTCATAA TCCGCATATG ATCAATTCAA
2901 GGCGGAATAA GAAGGCTGGC TCTGCACCTT GGTGATCAAA TAATTCGATA
2951 GCTTGTGCTA ATAATGGCGG CATACTATCA GTAGTAGGTG TTTCCCTTTC
3001 TTCTTTAGCG ACTTGATGCT CTTGATCTTC CAATACGCAA CCTAAAGTAA
3051 AATGCCCAAC AGCGCTGAGT GCATATAATG CATTCTCTAG TGAAAAAAACCT
3101 TGTTGGCATA AAAAGGCTAA TTGATTTCTG AGAGTTTCAT ACTGTTTTC
3151 TGTAGGCCGT GTACCTAAAT GTACTTTCTG TCCATCGCGA TGACTTAGTA
3201 AAGCACATCT AAAACTTTA CGTTTATTAC GTAAAAAAATC TGCCAGCTT

3251 TCCCCTTCTA AAGGGCAAAA GTGAGTATGG TGCCTATCTA ACATCTCAAT
3301 GGCTAAGGGC TCGAGCAAAG CCCGCTTATT TTTTACATGC CAATACAATG
3351 TAGGCTGCTC TACACCTAGC TTCTGGCGA GTTTACGGGT TGTTAAACCT
3401 TCGATTCCGA CCTCATTAAG CAGCTCTAAT GCGCTGTTAA TCACTTTACT
3451 TTTATCTAAT CTAGACATGG TGGAAAGCTT TTGCAAAAGC CTAGGCCTCC
3501 AAAAAAGCCT CCTCACTACT TCTGGAATAG CTCAGAGGCC GAGGCAGGCCT
3551 CGGCCTCTGC ATAATAAAAA AAAATTAGTC AGCCATGGGG CGGAGAATGG
3601 CGGGAACTGG CGGGAGTTAG GGCGGGATG GGCGGAGTTA GGGGCGGGAC
3651 TATGGTGTG GACTAATTGA GATGCATGCT TTGCATACTT CTGCCTGCTG
3701 GGGACCTGG GGACTTTCCA CACCTGGITG CTGACTAATT GAGATGCATG
3751 CTTTGATAC TTCTGCCTGC TGGGGAGCCT GGGGACTTTG CACACCTAA
3801 CTGACACACA TTCACAGGT CGACTAGATC GAATTCTCAA TTGTTTTACG
3851 CGGCCGATG CATGGGTGCG TGCGCTCCCT TCAGCTGGGC GCTGCCGGTC
3901 CTGGGGCGGG CGTCAGGCAC CGGGCTTGC CGGTATGCAC CAGGTCGCGC
3951 GGTCTCTCGG GCACTCGACG TCAGCGGTGA CGGTGAAGCC GAGCCGCTCG
4001 TAGAAGGGGA GGTGCGGGG CGCGGAGGTC TCCAGGAAGG CGGGCACCCC
4051 GGCAGCTCG GCGCCCTCCA CTCCGGGAG CACGACGGCG CTGCCAGAC
4101 CCTTGCCCTG GTGGTCGGGC GAGACGCCA CGGTGGCCAG GAACCACGCG
4151 GGCTCCCTGG GCGGTGCGG CGCCAGGAGG CCTCCATCT GTGCTGCGC
4201 GGCAGCGGG GAACCGCTCA ACTCGGCCAT GCGCCGGCCG ATCTCGCGA
4251 ACACCGCCCC CGCTTCGACG CTCTCCGGG TGGTCCAGAC CCCAACCGCG
4301 GCGCCGTCGT CGCGCACCCA CACCTTGCCG ATGTCGAGCC CGACGCGCGT
4351 GAGGAAGAGT TCTTGAGCT CGGTGACCCG CTCGATGTGG CGGTCCGGAT
4401 CGACGGTGTG GCGGTGCGG GGGTAGTCGG CGAACCGCCG GGCAGGGGTG
4451 CGTACGGCCC TGGGGACGTC GTCGCGGGT GCGAGGCGCA CGGTGGGCTT
4501 GTACTCGGTC ATGGTAAGCT GATCCGGCCG GCGCCTAGAG AAGGAGTGAG
4551 GGCTGGATAA AGGGAGGATT GAGGGGGGGT CGAAAGAGGA GGTCAAGGG
4601 GGAGAGACGG CGCGGATGGA AGAAGAGGAG GCGGAGGCTT AGGGTGTACA
4651 AAGGGCTTGA CCCAGGGAGG GGGGTCAAAC GCCAAGGCTT CCCAGGTAC
4701 GATGTAGGGG ACCTGGTCTG GGTGTCCATG CGGGCCAGGT GAAAAGACCT
4751 TGATCTAAC CTGGGTGATG AGGTCTCGGT TAAAGGTGCC GTCTCGCGC
4801 CATCCGACGT TAAAGGTGG CCATTCTGCA GAGCAGAAGG TAACCCAACG
4851 TCTCTTCTG ACATCTACCG ACTGGTTGT AGCGAGCCGC TCGACATCTT
4901 TCCAGTGATC TAAGGTCAA CTTAAGGGAG TGGTAACAGT CTGGCCCTAA
4951 TTTTCAGACA AATACAGAAA CACAGTCAGA CAGAGACAAC ACAGAACGAT
5001 GCTGCAGCG ACAAGACGCG CGGCTTCGGT TCCAAACCGA AAGCAAAAT
5051 TCAGACGGAG GCGGGAACTG TTTTAGGTT TCGTCTCTA CCAGAACAC
5101 ATATCCTGAC GGGTCGGAT TCCACATCGA CTCCCTCCCT CAGGTGGGC
5151 CACAAAAAACG GCCCCCAAAG TCCCTGGGAC GTCTCCAGG GTTGCAGGCC
5201 GGTGTCAGA ACTCGTCAGT TCCACACCGG GTCCGCCAGA TACAGAGCTA
5251 GTTAGCTAAC TAGTACCGAC GCAGGGCGCAT AAAATCAGTC ATAGACACTA
5301 GACAATCGGA CAGACACAGA TAAGTTGCTG GCCAGCTTAC CTCCCGGTGG
5351 TGGGTCGGTG GTCCCTGGGC AGGGGCTCCT CGATCCCGGA CGAGCCCCCA
5401 AATGAAAGAC CCCCGCTGAC GGGTAGTCAA TCACTCAGAG GAGACCCCTCC
5451 CAAGGACACG CGAGACCCAA AGTCGGATGCA AACTGCAAGA GGGTTTATTG
5501 GATAACCGGG TACCCGGGCG ACTCAGTCAA TCAGGAGACT GGCAGCCCCGA
5551 GTGAGGGGTT GTGGGCTCTT TTATTGAGCT CGGGGAGCGA AAGCGCGCGA
5601 ACAGAACGCA GAAGCGAACT GATTGGTTAG TCAAATAAG GCACAGGGTC
5651 ATTTCAAGGTC CTTGGGGCAC CCTGGAAACA TCTGATGGTT CTCTAGAAAC
5701 TGCTGAGGGC TGGACCCCAT CTGGGGACCA TCTGTTCTTG GCCCTGAGCC
5751 GGGGCAAGAA CTGCTTACCA CAGATATCCT GTTGGCCCA TATTCACTG
5801 TTCCATCTGT TCTTGGCCCT GAGCCGGGGC AGGAACTGCT TACACAGAT
5851 ATCCTGTTG GCCCATATTC AGGCTGCAGG TGGCACTTTT CGGGGAAATG
5901 TGCAGCGAAC CCCTATTGT TTATTTTCT AAATACATTC AAATATGTAT
5951 CCGCTCATG GACAATAACCT CGATAAAATG CTTCAATAAT ATTGAAAAAAG
6001 GAAGAGTATG AGTATCAAC ATTCCGTGT CGCCCTTATT CCCTTTTTG
6051 CGGCATTTG CCTCTCTGTT TTGCTCACC CAGAAACGCT GGTGAAAGTA
6101 AAAGATGCTG AAGATCAGTT GGGTGCACGA GTGGGTTACA TCGAAGCTGGA
6151 TCTCAACAGC GGTAAGATCC TTGAGAGTT TCGCCCCGAA GAACGTTTTC
6201 CAATGATGAG CACTTTAAA GTTCTGCTAT GTGGCGCGGT ATTATCCCGT
6251 GTTGACGCCG GGCAAGAGCA ACTCGGTGCG CGCATACACT ATTCTCAGAA
6301 TGACTTGGTT GAGTACTCAC CACTCACAGA AAAGCATCTT ACGGAAGGCA
6351 TGACAGTAAG AGAATTATGC AGTGTGCGCA TAACCATGAG TGATAACACT
6401 GCGGCCAACT TACTTCTGAC AACGATCGGA GGACCGAAGG AGCTAACCGC
6451 TTTTTGTCAC AACATGGGG ATCATGTAAC TCGCCTGAT CGTTGGGAAAC
6501 CGGAGCTGAA TGAAGCCATA CAAACGACG AGCGTGACAC CACGATGCCT
6551 GTAGCAATGG CAACAACTG CGCAGAACTA TTAACCTGGCG AACTACTTAC

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6601 TCTAGCTTCC CGGCAACAAT TAATAGACTG GATGGAGGCG GATAAAAGTTG
 6651 CAGGACCACT TCTCGCGCTCG GCCCTTCGG CTGGCTGGTT TATTGCTGAT
 6701 AAATCTGGAG CCGGTGAGCG TGGGTCTCGC GGATCATTG CAGCACTGGG
 6751 GCCAGATGGT AAGCCCTCCC GTATCGTAGT TATCTACACG ACGGGGAGTC
 6801 AGGCAACTAT GGATGAACGA AATAGACAGA TCGCTGAGAT AGGTGCCTCA
 6851 CTGATTAAGC ATTGGTAACT GTCAGACCAA GTTTACTCAT ATATACTTTA
 6901 GATTGATTTG CGGCCGGCCG CAAACTTCAT TTTTAATTAA AAAGGATCTA
 6951 GGTGAAGATC CTTTTTGATA ATCTCATGAC CAAAATCCCT TAACGTGAGT
 7001 TTTCGTTCCA CTGAGCGTCA GACCCCGTAG AAAAGATCAA AGGATCTTCT
 7051 TGAGATCCTT TTTTCTGCG CGTAAATCTGC TGCTTGCAAA CAAAAAAACC
 7101 ACCGCTACCA GCGGTGGTT GTTTGCCGGA TCAAGAGCTA CCAACTCTTT
 7151 TTCCGAAGGT AACTGGCTTC AGCAGAGCGC AGATACAAA TACTGTCCTT
 7201 CTAGTGTAGC CGTAGTTAGG CCACCACTTC AAGAACTCTG TAGCACCGCC
 7251 TACATACCTC GCTCTGCTAA TCCTGTTACC AGTGGCTGCT GCCAGTGGCG
 7301 ATAAGTCGTG TCTTACCGGG TTGGACTCAA GACGATAGTT ACCGGATAAG
 7351 GCGCAGCGGT CCGGGCTGAAC GGGGGGTTCG TGCACACAGC CCAGCTTGA
 7401 GCGAACGACC TACACCGAAC TGAGATACCT ACAGCGTGAG CTATGAGAAA
 7451 GCGCCACGCT TCCCGAAGGG AGAAAGCGG ACAGGTATCC GGTAAGCGGC
 7501 AGGGTCGGAA CAGGAGAGCG CACGAGGGAG CTTCCAGGGG GAAACGCCG
 7551 GTATCTTTAT AGTCTGTGCG GTTTTCGCCA CCTCTGACTT GAGCCTGAT
 7601 TTTTGTGATG CTCGTCAGGG GGGCGGAGCC TATGGAAAAA CGCCAGCAAC
 7651 GCGGCCTTTT TACGGTTCTC GGCCTTTGC TGGCCTTTG CTCACATGTT
 7701 CTTTCCTGCG TTATCCCCTG ATTCTGTGGA TAACCGTATT ACCGCCCTTG
 7751 AGTGAGCTGA TACCGCTCGC CGCAGCCGAA CGACCGAGCG CAGCGAGTCA
 7801 GTGAGCGAGG AAGCGGAAGA GCGCCAATAC GCAAACCGCC TCTCCCCGCG
 7851 CGTTGGCGGA TTCATTAATG CAACTATGGC CATTTAATGT AAATACTTAA
 7901 GAAAAAAAC CAAATTAATT TTGATACATG CTGCATGTGA AGACCCCCCGC
 7951 TGACGGGTAG TCAATCACTC AGAGGAGACC CTCCCCAAGGC AGCGAGACCA
 8001 CAAGTCGGAA ATGAAAGACC CCCGCTGACG GGTAGTCAAT CACTCAGAGG
 8051 AGACCCCTCCC AAGGAACAGC GAGACCACAA GTCGGATGCA ACTGCAAGAG
 8101 GGTTTATTGG ATACACGGGT ACCCGGGCGA CTCAGCTAAT CGGAGGACTG
 8151 GCGCCCCGAG TGAGGGGTTG TGGGCTCTT TATTGAGCTC GGGGAGCAGA
 8201 AGCGCGGAA CAGAAGCGAG AAGCGAACTG ATTGGTTAGT TCAAATAAGG
 8251 CACAGGGTCA TTTCAGGTCC TTGGGGCACC CTGGAAACAT CTGATGGTTC
 8301 TCTAGAAACT GCTGAGGGCT GGACCGCATC TGGGGACCAT CTGTTCTTGG
 8351 CCCTGAGGCCG GGGCAGGAAC TGCTTACAC AGATATCCTG TTTGGCCCAT
 8401 ATTCACTGT TCCATCTGTT CTTGGCCCTG AGCCGGGGCA GGAACCTGCTT
 8451 ACCACAGATA CCCTGTTTGG CCCATATTCA GCTGTCCAT CTGTTCTGA
 8501 CCTTGATCTG AACTTCTCTA TTCTCAGTTA TGTTTTTC CATGCCTTGC
 8551 AAAATGGCGT TACTTAAGCT AGCAGATCTG CTAGCTTGC AAACCTACAG
 8601 GTGGGGTCTT TCATCCCCC CTTTTCTGG AGACTAAATA AAATCTTTA
 8651 TTTTATGCGC ACATTTCCCC GAAAAGTGCC ACCTGACGTC TAAGAAACCA
 8701 TTATTATCAT GACATTAACC TATAAAAATA GGCATATCAC GAGGCCCTTT
 8751 CGTCCGCACA TTTCGCCGAA AAGTGCCACC TGACGTCTAA GAAACCATTAA
 8801 TTATCATGAC ATTAACCTAT AAAAATAGGC GTATCACGAG GCCCTTCGTC
 8851 CC

Fig. 23

puhd10-3-hIL3 Length: 3621

1 ctcgagttt ccactcccta tcagtgata agaaaaagtga aagtcgagtt
51 taccactccc tatcagtat agagaaaagt gaaagtccgag ttaccactc
101 cctatcagt atagagaaaa gtgaaaagtgc agtttaccac tccctatcag
151 tgatagagaa aagtggaaatg cgagttacc actccctatc aytgatagag
201 aaaagtggaa gtcgagttt ccactcccta tcagtgata agaaaaagtga
251 aagtgcgtt taccactccc tatcagtat agagaaaagt gaaagtccgag
301 ctcggatccc ggtcgagta ggcgtgtacg gtgggaggcc tatataagca
351 gagtcgttt aytgaaacgtt cagatccctt ggagacgcca tccacgctgt
401 tttgacccatc atagaagaca ccggggacca tccagccctt gggggccccga
451 attaaacagt ctagctacgt caacggaaa taaaatccaa acatgagccg
501 cctggccgtc ctgctctgc tccaaactt ggtccggccc ggactccaaq
551 ctcccatgac ccagacaacg tccttgaaga caagctgggt taactgctct
601 aacatgatcg atgaaattt aacacactta aagcagccac ctggccctt
651 gctggactt aacaacctca atggggaaaga ccaagacatt ctgatggaaa
701 ataaccttc aaggccaaac tggggggcgt tcaacaggcc tgcgtcaagagt
751 ttacagaacg catcagcaat tgagagcattt cttaaaatc tcctgcccatt
801 tctgcccctg gccacggccg cacccacgcg acatccaatc catatcaagg
851 acggtgactg gaatgaattt cggggggaaac tgacgtteta tctgaaaacc
901 cttgagaatg cgcaggctca acagacgact ttgagccctg cgatctttt
951 gaactcgact cttagatcatc taagatataat ttagatgggtt ggacaaacca
1001 caactagaat gcaatggaaa aaatgtttaat ttgtgaaat ttgtgatgct
1051 attgccttat ttgttaaccat tataaqctgc aataaacaag ttaacaacaa
1101 caatttgcatt cattttatgt ttcaagggtca ggggggggtt tgggggggtt
1151 tttaaagcaa gtaaaaacctc tacaatgtt gtagtgcgtttaatgatctt
1201 gcaaggctcg tggctggcc ggaccacgct atctgtcga ggtccgggg
1251 cgccgcgtcc atgagcgagcg cggggccgc cgaggcaaga ctggggccgc
1301 gcccggccg tccaccaggc tcaacaggccg gacccggcc tcttcatcg
1351 gaatgcgcgc gacccctcgtt atccggggca tggccctgg cggacgggg
1401 gtatcgctc gaccaagctt ggcgagattt tcaggagctt agaagctaa
1451 aatggggaaa aaaaatctgtt gatataccac cggtgtatata tcccaatggc
1501 atcgttaaaga acattttgat gcatttcgtt cagttgcctt atgtacat
1551 aaccaggccg ttccatgtca ttaatgttca gggcaacgcg cggggggagg
1601 cgggttgcgtt atggggcgtt cttccgcctt ctcgtctact gactcgctc
1651 gtcggcgtt tggctggcc cgaggccgtt cagctactt aagtcggta
1701 atacgtttt ccacagaatc aggggataac gcaggaaaaga acatgtgagc
1751 aaaaggccg caaaaggccg ggaaccgtt aaaggccgcg ttgtggcg
1801 ttttccatag gtcggccccc cctgcgcgtt atcacaaaaaa tcgacgttca
1851 agtcaggggtt ggcggaaaccc gacaggactt taaagatacc aggcgttcc
1901 cccttggaaatc tccctctgt gctctccgtt tccggccctt ccgttacc
1951 gataactgtc cgcccttcc cttccggaa gcgtggcgct tctcaatgc
2001 tcacgtgtt ggtatctcg ttcgggtgtt gtcgttgcgtt ccaagctgg
2051 ctgtgcgc gaaacccccc ttccggccg cccgtgcgc ttatccggta
2101 actatcgctt tgatccaaatc ccggtaagac accgttatac gcaactggaa
2151 gcaaggccgtt gtaacaggat tagcagagcg aggtatgttgc ggggtgtac
2201 agagttttt ggttgggc ctaactacggt ttaactacggt aggacagtat
2251 ttgttatctg cgctctgtt aagccaggta cttccggaaa aagagtgg
2301 agctctgtt gccggccaaaca aaccaccgtt ggttagccgtt gttttttgt
2351 ttgcgcgcg cagattacgc gcaaaaaaaa aggatctcaa gaagatcc
2401 tgatctttt ttcgggggtt gacgttgcgtt ggaacggaaa ctacgttta
2451 gggattttgg tcatgagatt atcaaaaaagg atcttccatc agatcc
2501 aaattaaaaaa tgaagtttta aatcaatcta aagtatataat gatgtt
2551 ggtctgcac ttaacatgc ttaatcgatc aggcacccat ctcagcgatc
2601 tgtctatccat gtttgcgtt gtttgcgtt cttccggcc ttttttttt
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2701 gagaccacg ctacccggctt ccagattttt cagcaataaa ccaggcc
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3351 tgagcaaaaa caggaaggca aaatgccgca aaaaaggaa taagggcgac
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3451 tttatcaggg ttattgtctc atgagcggat acatatttga atgtatttag
3501 aaaaataaaac aaataggggt tccgcgcaca tttccccgaa aagtgccacc
3551 tgacgtctaa gaaaccattn ttatcatgac attaacctat aaaaatagc
3601 gttatcacgag gccctttcgt c

Fig. 24

pUHD10-3-hIL6

Length: 3752 June 22, 1999 10:32 Type: N Check: 8139 ...

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101 cctatcgtg atagagaaaa gtgaaagtgc agtttaccac tcctatcag
151 tgatagaaaa aagtggaaat cgagtttacc actccctatc agtgatagag
201 aaaagtggaa gtcgagttt ccactcccta tcagtatcg agaaaagtga
251 aagtccgtt taccactccc tatcgtatcg agagaaaaat gaaagtcgag
301 ctcgtaccc gggtcgatg ggcgtgtacg gtggggggcc tataataga
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501 caggagaaga ttccaaagat gtgcggccg cacacagaca gcaactcacc
551 tcttcgaaac gaattgacaa acaaattcgg tacatctcg acggcatctc
601 agccctgaga aaggagacat gtaacaagag tataatgtg gaaagcagca
651 aagaggcact ggcagaaaaac aacctgaacc ttccaaagat ggctgaaaaa
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801 gatttgagag tagtgaggaa caagccagag ctgtccatg gatgacaaaa
851 gtccgtatcc agttcgtca gaaaaaggca aagaatctag atgcaataac
901 caccctgtac ccaaccacaa atgcccggct gtcgacaaatc ctgcaggcac
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2851 tccagattta tcagcaataa accagccagc cggaggcc gagcgcagaa
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3101 tgcaaaaaaa cggtagctc cttcggttcc cccatgttgc tcaagttaa
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CC CG CG

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3501 aaaatgcccgc aaaaaaggga ataaaggcga cacgaaatg ttgaatactc
3551 atactttcc ttttcaata ttattgaagc atttatcagg gttattgtct
3601 catgagcggta tacatatttgc aatgtattta gaaaaataaaa caaatagggg
3651 ttccgcgcac attccccga aaagtgcac ctgacgtcta agaaaccatt
3701 attatcatgta cattaaccta taaaaatagg cgtatcacga ggccctttcg
3751 tc

Fig. 25

puhd10-3-tgf

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61 tatcagtgatagagaaaagtgaaagtgcgagtttaccactccctatcagtgatagagaaaa
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181 actccctatcagtgatagagaaaagtgaaagtgcgagtttaccactccctatcagtgatag
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241 agaaaagtgaaagtgcgagtttaccactccctatcagtgatagagaaaagtgaaagtgcgag
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301 ctggtagcccggtcgagtaggcgtgtacggtgaggcctatataaggcagagctcgaaa
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361 agtgaaccgtcagatcqccctggagacgcacccatccacgctgtttgacctccatagaagaca
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421 ccgggaccgatccagcctccgcggccccgaattcctgcagcccATGCACTTGCAAAGGGC
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481 TCTGGTAGTCCTGGCCCTGCTGAACCTGGCCACAATCAGCCTCTCTGTCCACTTGAC
540
541 CACGTTGGACTTCGGCCACATCAAGAAGAAGAGGGTGGAAAGCCATTAGGGGACAGATCTT
600
601 GAGCAAGCTCAGGCTCACCGCCCCCTGAGCCATCGGTGATGACCCACGTCCCCATCA
660
661 GGTCTGGCACTTACAACAGCACCCGGAGTTGCTGGAAGAGATGACGGGGAGAGGGA
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721 GGAAGGCTGCACTCAGGAGACCTCGGAGTCTGAGTACTATGCCAACAGAGATCCATAAATT
781 CGACATGATCCAGGGACTGGCGGAGCACAATGAACCTGGCGTCTGCCCAAAGGAATTAC
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841 CTCTAAGGTTTCGTTCAATGTGTCCTCAGTGGAGAAAAATGGAACCAATCTGTTCCG
900
901 GGCAGAGTTCCGGGTCTTGCAGGAGCTCCAAGCCACAGCTCCAGCGCACAGAGCAGAGAAT
960
961 TGAGCTTCCAGATACTTCGACCGGATGAGCACATAGCCAAGCAGCGCTACATAGGTGG
1020
1021 CAAGAATCTGCCACAAGGGCACCGCTGAATGGCTGTTCGATGTCACTGACACTGT
1080
1081 GCGCGAGTGGCTGTTGAGGAGAGAGTCCAACCTGGGTCTGGAAATCAGCATCCACTGTCC
1140
1141 ATGTCACACCTTCAGCCAATGGAGACATACTGGAAAATGTCATGAGGTGATGGAAAT
1200
1201 CAAATTCAAAGGAGTGGACAATGAAGATGACCATGGCGTGGAGACCTGGGGCGTCTCAA
1260
1261 GAAAGCAAAGGATCACCAACCCACACCTGATCCTCATGATGATCCCCCACACCGACT
1320

1321 GGACAGCCCAGGCCAGGGCAGTCAGAGGAAGAAAGAGGGCCCTGGACACCAATTACTGCTT
 1381 CCGCAACCTGGAGGAGAACTGCTGTACGCCCCCTTATATTGACTTCCGGCAGGATCT
 1441 AGGCTGGAAATGGGTCCACGAACCTAAGGGTTACTATGCCAACCTCTGCTCAGGCCCTTG
 1501 CCCATACCTCCGCAGCCAGACACAACCCATAGCACGGTGCTTGGACTATAACACCCCT
 1561 GAACCCAGAGGGCGTCTGCCATGCCATGCTGCGTCCCCCAGGACCTGGAGGCCCTGACCAT
 1621 CTGTACTATGTGGGCAGAACCCCCAACGGTGGAGCAGCTGTCCAACATGGTGGTGAAGTC
 1681 GTGTAAGTGCAGCTGAggggatccactagtttagaggatccagacatgataagataca
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 2521 gcaaaaaggccaggaaccgtaaaaaggcccggttgcgtggagttttccataggctccgccc
 2581 ccctgacgagcatcacaaaaatcgacgctcaagtcagagggtggcgaaacccgcacaggact

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ataaaagataccaggcgttccccctggaaagctccctcgcgcttcctgttccgaccct
2641 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 2700

gccgcttaccggataacctgtccgccttctcccttcggaaagcgtggcgctttctaattg
2701 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 2760

ctcacgctgttaggtatctcagttcggttaggtcgttcgctccaagctggctgttgca
2761 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 2820

cgaaccccccgttcagccgaccgcgtgcgccttatccgtaactatcgctttagtccaa
2821 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 2880

cccggttaagacacgacttatacgccactggaagcagccactggtaacagaggattgcagagc
2881 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 2940

gaggtatgttaggcgggtgctacagagttcttgaagtggcctaactacggctacactag
2941 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3000

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3001 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3060

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3061 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3120

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3121 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3180

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3181 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3240

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tccagatttatcagcaataaaccagccagccggaaaggccgcgcgcgcgcgcgcgcgc
3481 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3540

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3541 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3600

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3781 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3840

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3841 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 3900

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3961 -----+-----+-----+-----+-----+-----+ 4020
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4021 -----+-----+-----+-----+-----+-----+ 4080
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4261 -----+-----+-----+-----+-----+-----+ 4320
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4321 -----+-----+-----+-----+-----+-----+ 4380
tc
4381 -- 4382

Fig. 26

pUHD10.3-hflt3 Ligand-exon 6 plasmid Length: 4224

```

1 CTCGAGTTA CCACTCCCTA TCAGTGATAG AGAAAAGTGA AAGTCGAGTT
51 TACCACTCCC TATCAGTGAT AGAGAAAAGT GAAAGTCGAG TTTACCACTC
101 CCTATCAGTG ATAGAGAAAA GTGAAAGTCG AGTTTACAC TCCCTATCAG
151 TGATAGAGAA AAGTGAAAGT CGAGTTTACCC ACTCCCTATC AGTGATAGAG
201 AAAAGTGAAA GTCGAGTTA CCACTCCCTA TCAGTGATAG AGAAAAGTGA
251 AAGTCGAGTT TACCACTCCC TATCAGTGAT AGAGAAAAGT GAAAGTCGAG
301 CTCGGTACCC GGGTCGAGTA GGCCTGTACG GTGGGAGGCC TATATAAGCA
351 GAGCTCGTTT AGTGAACCGT CAGATCGCCT GGAGACGCCA TCCACGCTGT
401 TTTGACCTCC ATAGAAGACA CCGGGACCGA TCCAGCCTCC GCGGCCCCGA
451 ATTCCggggc ccccgccga aATGacagtg ctggcgccag cctggagccc
501 aacaacctat ctccctctgc tgctgtctg gagctcgaaa ctcagtggaa
551 cccaggactg ctccctccaa cacagccccca tctccctcgaa cttcgctgtc
601 aaaatccgtg agctgtctga ctacctgctt caagattacc cagtcaccgt
651 ggcctccaaac ctgcaggacg aggagctctg cggggggcctc tggcggtctgg
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```

Fig. 26a

1551 TCCTCTAGAG GATCCAGACA TGATAAGATA CATTGATGAG TTTGGACAAA
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 1651 GCTATTGCTT TATTTGTAAC CATTATAAGC TGCAATAAAC AAGTTAACAA
 1701 CAACAATTGC ATTCAATTAA TGTTTCAGGT TCAGGGGGAG GTGTGGGAGG
 1751 TTTTTAAAG CAAGTAAAAC CTCTACAAAT GTGGTATGGC TGATTATGAT
 1801 CCTGCAAGCC TCGTCGCTG GCCGGACCAC GCTATCTGTG CAAGGTCCCC
 1851 GGACCGCGCG TCCATGAGCA GAGCGCCCGC CGCCGAGGCC AGACTCGGGC
 1901 GGCGCCCTGC CCGTCCCACC AGGTCAACAG GCGGTAACCG GCCTCTTCAT
 1951 CGGGAATGCG CGCGACCTTC AGCATCGCCG GCATGTCCCC TGGCGGACGG
 2001 GAAGTATCAG CTCGACCAAG CTTGGCGAGA TTTTCAGGAG CTAAGGAAGC
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 2151 TATAACCAGA CCGTTCAAGCT GCATTAATGA ATCAGGCCAAC GCGCGGGAG
 2201 AGGCGGTTTG CGTATTGGGC GCTCTCCCGC TTCCCTCGCTC ACTGACTCGC
 2251 TGCGCTCGGT CGTCGCGCTG CGGCGAGCGG TATCAGCTCA CTCAAAGGCG
 2301 GTAATACGGT TATCCACAGA ATCAGGGAT AACGCAGGAA AGAACATGTG
 2351 AGCAAAAGGC CAGCAAAAGG CCAGGAACCG TAAAAAGGCC GCGTTGCTGG
 2401 CGTTTTCCA TAGGCTCCGC CCCCCTGACG AGCATCACAA AAATCGACGC
 2451 TCAAGTCAGA GGTGGCGAAA CCCGACAGGA CTATAAAGAT ACCAGGCGTT
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 2551 CCGGATACCT GTCCGCCCTT CTCCCTCGG GAAGCGTGGC GCTTCTCAA
 2601 TGCTCACGCT GTAGGTATCT CAGTTCGGTG TAGTCGTTG GCTCCAAGCT
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 2951 TGTTGCAAG CAGCAGATTA CGCGCAGAAA AAAAGGATCT CAAGAAGATC
 3001 CTTTGATCTT TTCTACGGGG TCTGACGCTC AGTGGAACGA AAACTCACGT
 3051 TAAGGGATTG TGGTCATGAG ATTATCAAAA AGGATCTTCA CCTAGATCCT
 3101 TTTAAATTAA AAATGAAGTT TTTAAATCAAT CTAAAGTATA TATGAGTAAA
 3151 CTTGGTCTGA CAGTTACCAA TGCTTAATCA GTGAGGCACC TATCTCAGCG

Fig. 26a

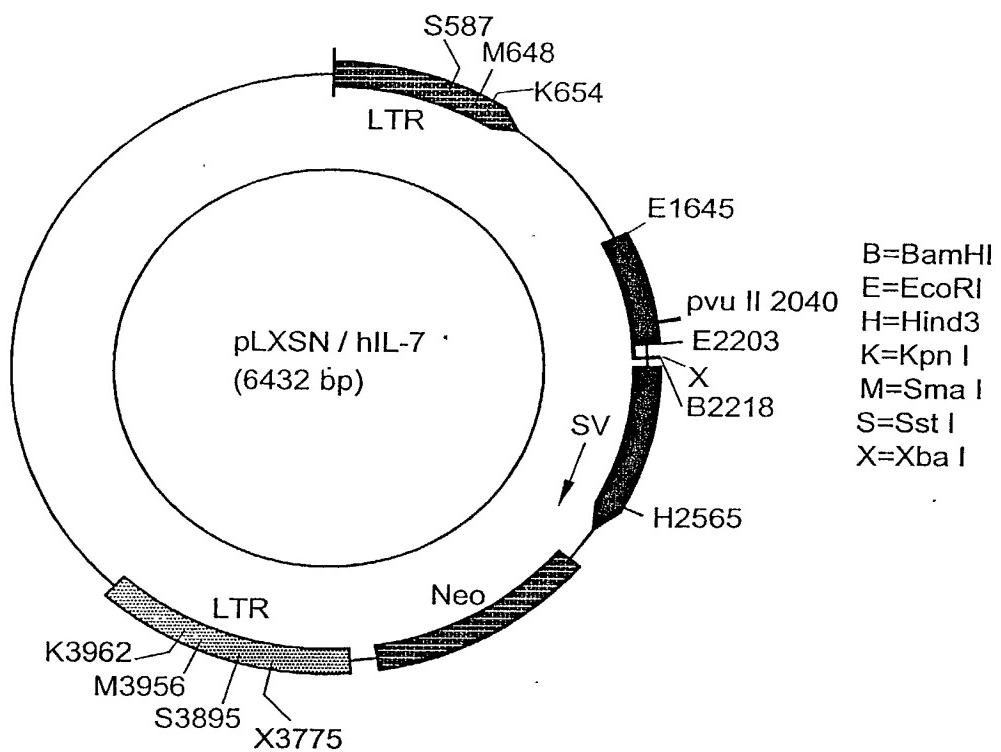
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3301 CGCGAGACCC ACGCTCACCG GCTCCAGATT TATCAGCAAT AAACCAGCCA
3351 GCCGGAAGGG CCGAGCGCAG AAGTGGTCCT GCAACTTTAT CCGCCTCCAT
3401 CCAGTCTATT AATTGTTGCC GGGAAAGCTAG AGTAAGTAGT TCGCCAGTTA
3451 ATAGTTGCG CAACGTTGTT GCCATTGCTA CAGGCATCGT GGTGTCACGC
3501 TCGTCGTTG GTATGGCTTC ATTCAAGCTCC GGTTCCCAAC GATCAAGGCG
3551 AGTTACATGA TCCCCATGT TGTGAAAAA AGCGGTTAGC TCCTTCGGTC
3601 CTCCGATCGT TGTCAGAAGT AAGTTGGCCG CAGTGTATC ACTCATGGTT
3651 ATGGCAGCAC TGCATAATTCTCTTACTGTC ATGCCATCCG TAAGATGCTT
3701 TTCTGTGACT GGTGAGTACT CAACCAAGTC ATTCTGAGAA TAGTGTATGC
3751 GGC GACCGAG TTGCTCTTGC CCGCGTCAA TACGGGATAA TACCGCGCCA
3801 CATAGCAGAA CTTTAAAAGT GCTCATCATT GGAAAACGTT CTTCCGGGCG
3851 AAAACTCTCA AGGATCTTAC CGCTGTTGAG ATCCAGTTCG ATGTAACCCA
3901 CTCGTGCACC CAACTGATCT TCAGCATCTT TTACTTTCAC CAGCGTTCT
3951 GGGTGAGCAA AAACAGGAAG GCAAAATGCC GCAAAAAAGG GAATAAGGGC
4001 GACACGGAAA TGTTGAATAC TCATACTCTT CCTTTTCAA TATTATTGAA
4051 GCATTITATCA GGGTTATTGT CTCATGAGCG GATACATATT TGAATGTATT
4101 TAGAAAAATA AACAAATAGG GGTTCCGCGC ACATTTCCCC GAAAAGTGCC
4151 ACCTGACGTC TAAGAAAACCA TTATTATCAT GACATTAACC TATAAAAATA
4201 GGC GTATCAC GAGGCCCTT CGTC

Fig. 26a

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Recovery of insert: EcoRI



Ref. (HSIL7A)

Insert:375(-10)

E

770

pvu II

933(+5)

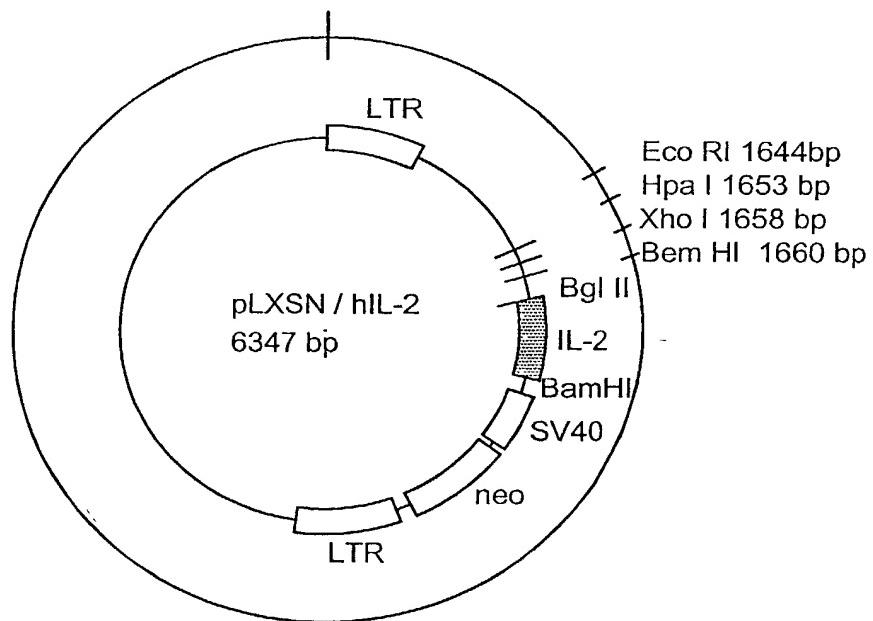
E

FIG.27

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Plasmid-chart

Designation: pLXSN/hIL-2 Log no.:
Insert: hIL-2 (473bp)
Vector: pLXSN (5874bp) Location:
Recovery of insert: Eco RI /Bam HI Selection: Amp
Hpa I / Bam HI Ref.: pLXSN BioTechniques 7,980-987(1989)
Xho I / Bam HI hIL-2 Nature 302,305-309(1983)



Insert: Bgl II
5' AGA TCT ACA - IL-2 - TAA TTA AGT BamHI 473 bp

FIG.28